AP - 009

STAGE 1 & 2 REPORTS

DATE: Sept. 1999

ADDITIONAL SUBSURFACE INVESTIGATION REPORT
AND
STAGE 2 ABATEMENT PLAN

PIPELINE RELEASE SITE HDO 90-23
SECTION 6, TOWNSHIP 20 SOUTH, RANGE 37 EAST
LEA COUNTY, NEW MEXICO

Prepared For:
EOTT Energy Corp
5805 East Highway 80
Midland, Texas 79701

Environmental Technology Group, Inc. Project No. EOT1019C

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A Report Prepared for:

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Additional Subsurface Investigation Report
And
Abatement Plan

Environmental Technology Group, Inc. Project No. EOT1019C

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September 1999

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1.0 INTRODUCTION

A release, from the 14-inch pipeline, operated by the Texas-New Mexico Pipeline Company, was discovered on March 27, 1990 and reported later the same day. The notification form indicates that 750 barrels of sour crude was released with 550 barrels recovered, leaving a total of 200 barrels released at the site. After the recovery efforts, it appears that clean soil was transported to the site and spread over the oil stained surface. The release site is depicted on Figure 1, the Site Location Map.

In February 1998, nine soil borings were advanced at the site and five monitoring wells were completed in order to assess the subsurface conditions. In June 1998, during a ground water monitoring event, 0.21 feet of free phase product was observed in monitoring well MW-2. Dissolved phase hydrocarbons have been observed in monitoring wells MW-2 and MW-3 since that time.

Two abatement plans, one dated July 8, 1998 and the other dated August 31, 1998, are essentially identical regarding the recommendations to drill additional borings and install additional monitoring wells in order to determine the extent of soil and ground water impact. The reports also detailed recommendations regarding landowner notifications and the gathering of public information regarding the presence of ground water wells in the area. However, there were no recommendations regarding active abatement of the site.

In September 1999, three additional monitoring wells were installed at the site in order to more completely define the extent of ground water impact. Also, one additional soil boring and ten geoprobe borings were advanced at the site to more completely define the extent of petroleum impacted soil. This report details the most recent field activities and presents recommendations regarding active abatement of the site conditions.

2.0 RECENT FIELD ACTIVITIES

On September 1, 1999, Environmental Technology Group, Inc. (ETGI) mobilized an air rotary drilling rig, operated by Eades Drilling, from Hobbs New Mexico, was mobilized to the site. The rig was utilized to advance one soil boring (SB-10) and install three ground water monitoring wells (MW-6, MW-7 and MW-8). Soil samples were collected at five foot intervals and field screened with a photo ionization detector (PID). Soil samples collected immediately above the ground water table and samples with high PID readings were submitted for laboratory analyses. The soil analyses included EPA method 8015 Modified DRO/GRO and EPA Method 8020,5030 (BTEX). The soil boring logs and well completion data are included in Appendix A. The soil laboratory report is provided in Appendix B. The soil laboratory data is also presented on Table 1.

Also on September 1, 1999, a geoprobe rig, operated by ETGI, was mobilized to the site. The rig was utilized to advance ten geoprobe borings, designated GP-1 through GP-10. Continuous soil samples were collected, described and field screened with a PID. Sample descriptions and PID readings are included in Appendix A. One sample from each

geoprobe point was submitted for laboratory analyses. The samples submitted for laboratory analyses were selected in order to confirm the vertical extent of petroleum impact as suggested by the PID readings. The laboratory report for these samples is also included in Appendix B.

On September 13, 1999, the three additional monitoring wells were gauged, developed, purged and sampled, along with the existing monitoring wells. A thickness of 2.76 feet of free phase product (PSH) was measured at monitoring well MW-2. The current water elevations, along with historical data, are included in Table 2. The ground water analytical results from the last sampling round are provided on Table 3.

3.0 SUBSURFACE CONDITIONS

The current data suggest that the lateral extent of impacted soil diminishes with depth. A series of figures, Figure 2 through Figure 7, depict the lateral extent of impacted soil, as measured by the PID readings, at various intervals. The lowest vertical extent of petroleum impact at each point, as suggested by the PID readings, are confirmed by the soil laboratory data from the geoprobe samples. Impacted soil at the water table appears to be limited to the area around monitoring wells MW-2, MW-3 and MW-6.

The ground water gradient slopes to the east-southeast at a gradient of approximately 0.001 ft/ft. This is a relatively shallow gradient and free phase product and dissolved phase hydrocarbon migration would be expected to be low. Using an estimated hydraulic conductivity of 0.28 feet/day (silty sand) and a porosity of 30 percent, the seepage velocity is expected to be approximately 0.34 feet/year. The ground water gradient map is provided as Figure 8.

There is a limited area of free phase product in the area around monitoring well MW-2 and may extend to a point near monitoring well MW-6. The thickness of free phase product in monitoring well MW-2 appears to be increasing. The extent of free phase product and dissolved phase hydrocarbons in the ground water appears to be limited to the area depicted on Figure 9.

The cross-section A-A' (Figure 10) trends from northwest-southeast across the impacted area. It indicates that impacted soils are centered in the area around monitoring well MW-6 and the free phase hydrocarbons are centered around monitoring well MW-2.

4.0 ABATEMENT OPTIONS

4.1 Soil Remediation

Abatement of impacted soil at the site is technically feasible using the following

technologies:

- Excavation and Disposal
- Soil Vapor Extraction
- Bioremediation
- Bioremediation/Bioventing
- Chemical Oxidation

It is estimated that there are approximately 4,853 cubic yards of impacted soil at the site (see calculations below). The impacted soil is centered on the pipeline right-of-way and extends to a depth of 46 feet bgs. The excavation of this material would require the disruption of the pipeline's operations and the removal of a significant amount of clean soil to provide terracing for the excavator and the maintenance of a reasonable slope to the excavation. Given the site location and expected excavation configuration, it is estimated that the cost of this option is approximately $55.00 per cubic yard of impacted soil. If the estimated volume of impacted soil is accurate, the cost of excavation, transportation and disposal is approximately $267,000.00. Total estimated project cost would be approximately $300,000.00 including analytical costs and environmental supervision.

Soil Vapor Extraction (SVE) is a viable technology to remediate the unsaturated zone at the site given the soil permeability. However, these systems are more effective on more volatile constituents such as those present in refined gasoline. Given the soil conditions and contaminate of concern (COC), a reasonable estimation of the practical radius of influence for each SVE well is approximately 25 feet. Given the depth of contamination, nested wells with variable perforated intervals would be required in the area of deepest impact. It is estimated that a total of approximately 16 SVE wells, five to six of which would be nested wells, would be required at the site.

The wells would be connected to the system blower by approximately 400 feet of trenching and lateral PVC lines. The system would require an explosion proof blower in the ten horsepower range, housed in a weatherproof shed. In addition, an electrical supply, electrical panel and associated process logic controllers would be required. An air emission permit for the system effluent and associated monitoring would be required.

Experience with the installation of these systems indicates that the installation cost would be approximately $75,000.00 including permitting and start-up. Given the soil type and COC, it is estimated that the system would require approximately four years of operation. System maintenance would include monthly system checks, air monitoring and a possible motor replacement. Electrical costs, maintenance costs and monitoring costs for the system would be approximately $1,500.00 per month for a total cost of approximately $72,000.00 for the life of the project. Total costs associated with this remedial option are estimated to be $147,000.

Bioremediation of the COCs at this site is a technically feasible option. ETGI has extensive experience with this technology and has frequently applied hydrocarbon consuming bacteria to the subsurface using the Deep Remediation Injection System

(DRIS) system (see below). Given the depth of contamination, several temporary wells or borings would be required to periodically apply the innoculants and oxygen generating compounds to the subsurface. It is estimated that this technology would also require a remediation period of approximately four years. Total costs, including the well installation, materials cost, inoculant cost, remediation progress monitoring and environmental supervision is estimated to be $130,000.00 for the life of the project.

By adding a biovent system to the site, aerobic bio-degradation could be accelerated at the site. This could result in a more rapid bioremediation schedule for the site. However, the cost associated with the installation of the system would push the cost of this technique to approximately $150,000.00

The chemical oxidation of hydrocarbons in the unsaturated zone, utilizing catalyzed Hydrogen Peroxide (H_2O_2) injected with the DRIS system is the recommended option. This technology is described in Section 5.0.

4.2 Ground Water Remediation

Regardless of the technology selected to remove the dissolved phase COCs in the ground water, the removal of free phase crude on the ground water should be the first step. The product can be removed utilizing a geo-vac type system, hydrophyllic belt systems, skimmer pumps or hand bailing. One of these systems would have to be employed successfully before the remediation of dissolved phase constituents would be feasible.

The removal of dissolved phase COCs is technically feasible using the following technologies:

- Pump and Treat
- Air Sparging
- Natural Attenuation

Past experience with pump and treat systems utilizing air strippers, granulated activated carbon, ultraviolet radiation or other COC removal technologies has been disappointing at sites similar to the subject site. The volume of water required to control the water table and facilitate the advection of impacted ground water toward the recovery well(s) in sandy material is significant.
One of two scenarios typically develop when employing this technique. Either the volume of water moved is inadequate to control the water table and the dissolved phase plume is not completely addressed, or the required amount of water is moved and the volume of water overwhelms the treatment system. Also, the water table rapidly returns to it's natural state when the system is down for repair or maintenance, resulting in periodic loss of control of the plume. It is difficult to estimate the required duration of these systems and the associated maintenance cost. However, it is probable that the use of this technology would be in excess of $100,000.00.

Air sparging (AS) is commonly utilized in conjunction with SVE systems. This would be a

technically feasible combination at the site. However, the low volatility of the COC at this site requires a relatively long operational period. It is estimated that the addition of AS to the SVE system described above, would add approximately $60,000.00 to the total cost over the life of the project.

If the impacted soil is remediated and the free phase hydrocarbons are removed, it is not uncommon for the rate of natural degradation of dissolved phase COCs in the ground water to exceed the rate of COC advection, especially given the shallow ground water gradient and low seepage velocity present at the subject location. If this is the case, current down gradient monitoring wells, not impacted by the COC should remain clean. In addition, the combination of molecular destruction and dispersion should result in a decrease in concentration levels in the currently impacted wells.

It is estimated that given favorable conditions COCs in the ground water may degrade to concentrations below regulatory limits naturally over a period of approximately four years. There is no significant up-front cost associated with this option, however, the costs of an extended period of ground water monitoring must be taken into consideration.

5.0 REMEDIAL RECOMMENDATIONS

5.1 Free Product Removal

ETGI recommends that a submersible skimmer pump be installed in monitoring well MW-2 such that free product and a minimal amount of impacted groundwater can be recovered from the well. If free phase product is observed in any other site wells, an additional skimmer pump should be utilized. The cost of this type of pump and associated equipment, including compressor, storage tank, and overfill protection, is approximately $7,800.00 for the first well installed. The incremental additional cost per well is approximately $2,900.00 per well.

If the above activities are successful in removing the free phase product and the following technology is successful in removing hydrocarbons from the unsaturated zone, the natural attenuation of dissolved phase hydrocarbons may exceed the rate of COC advection. If this is the case, current down gradient monitoring wells, not impacted by the COC should remain clean. In addition, the combination of molecular destruction and dispersion should result in a decrease in concentration levels in the currently impacted wells.

Once the removal of free phase product is complete and the COCs in the unsaturated zone have been reduced to below regulatory limits, ETGI recommends that the extent of dissolved phase hydrocarbons should be monitored at the site on a quarterly basis. If any additional down gradient wells become impacted over time, the active abatement of the dissolved phase hydrocarbons in the groundwater should be considered at that time.

5.2 Soil Remediation

In order to remediate the petroleum impacted soil, ETGI recommends chemical oxidation of the hydrocarbons in place utilizing the injection of hydrogen peroxide (H_2O_2), along with an iron sulfate catalyst. The soil conditions and depth of impacted soil should allow the use of the DRIS System with pilot holes advanced by a geoprobe unit as described below. The estimated cost for soil remediation at the site using this approach is approximately $80,000.00. The estimated period of active soil remediation activities should be approximately six months.

5.2.1 Injectate Volume and Composition

An estimate of the mass of crude oil present in the release area was made in order to estimate the required amount of Hydrogen Peroxide required to remediate the soil to below regulatory standards. These standards are 10 mg/Kg Benzene, 50 mg/Kg BTEX and 100 mg/Kg TPH. Given typical crude compositions at other, similar release sites, it is assumed that the 100 mg/Kg of TPH will be the limiting factor, therefore this will be considered the critical analyte.

In order to estimate the volume of hydrocarbons present in the release area, the impacted soil was divided into two categories as described below:

- Highly Impacted Soil - characterized by a PID reading of greater than 500 ppm
- Slightly Impacted Soil - characterized by a PID reading of 0 to 500 ppm

The highly impacted soil zone was correlated to the laboratory sample taken from monitoring well MW-6 at the 25 to 27 foot interval. This sample contained 2,765 mg/Kg TPH (GRO+DRO). Using the 500 PID contours on Figures 2 through 7 and interpolation where data was sparse, it was estimated that there is approximately 501.5 yd^3 of highly impacted soil. Using an estimated weight of 2,300 lbs/yd^3 and the concentration of 2,765 mg/Kg, it is estimated that there are 3189 lbs of hydrocarbons in the highly impacted soil zone. The maximum depth of this zone is estimated to be 15 feet bgs.

The slightly impacted soil zone was correlated to the laboratory sample taken from monitoring well MW-6 at the 40 to 42 foot interval. This sample contained 441 mg/Kg TPH (GRO+DRO). Using the an interpolation of the 250 PID contours on Figures 2 through 7, it was estimated that there is approximately 4,400 yd^3 of slightly impacted soil. Using an estimated weight of 2,300 lbs/yd^3 and the concentration of 441 mg/Kg, it is estimated that there are 4,463 lbs of hydrocarbons in the slightly impacted soil zone. This zone extends to the water table in the area between MW-6 and MW-3.

Combining the contaminant mass figures for both zones results in an estimated total of 7,652 lbs of hydrocarbons remaining at the release site. Several published papers and the past Experience of ETGI at other similar sites indicate that a ratio of 5 lbs of a 50% solution of H_2O_2 to 1 lb of contaminant can result in the desired degradation as long as it is properly dispersed and comes into contact with a majority of the contaminant. Using this

ratio, it is estimated that approximately 38,000 lbs or 3,800 gallons of 50% Hydrogen Peroxide will be injected into the unsaturated zone. In addition, approximately 9 lbs (0.024% of the amount of Hydrogen Peroxide) of Iron Sulfate ($FeSO_4$), in a 10 % solution with deionized water will be injected into the impacted soil zone prior to the introduction of Hydrogen Peroxide.

It is also well documented that, for the optimal production of hydroxyl radicals, a soil pH of 3 to 4 is required. Prior to injection, several soil samples will be collected to determine if the natural soil pH is in this range. It is probable that the soil pH is somewhat higher than this optimal range and a pH buffering agent (dilute H_2SO_4) will be introduced with the Iron Sulfate.

The literature indicates that within two to three days after the reaction, the remaining H_2O_2 and H_2SO_4 will be below detectable limits. The process involves the conversion of ferrous iron to ferric iron and some portion of ferric iron will probably remain in the soil as a precipitate. Controlled bench scale studies indicate that approximately 20% of the total amount of iron introduced will be converted to ferric iron as a precipitate. Therefore, we may expect that approximately 1.8 lbs of iron precipitate will remain in the treated soil area. This should not degrade permeability in the soil to any significant degree.

5.2.2 Injection Schedule and Progress Monitoring

The estimated total amount of injectate required to remediate the soil will not be applied during a single event. Approximately one-third of the total required will be injected during each of three events. Typically, the events are scheduled approximately one month apart to allow for a complete reaction and stabilization. During the period between events, representative soil samples will be collected to allow for the monitoring of progress at the site and the modification of injection locations or injectate composition as needed. In order to monitor the remedial progress between events, a minimum of five representative soil samples will be collected from the impacted zone at various depths. In addition, ground water samples will be collected from the monitoring wells in the treatment area between each application.

Subsequent to the last event, a total of ten representative soil samples will be collected from the impacted zone at various depths. If these soil samples indicate that benzene, BTEX and/or TPH concentrations remain at levels significantly above the closure levels, subsequent injection events will be conducted.

5.2.3 Injectate Dispersion Method

The DRIS injection lance utilizes water, under pressures up to 5,000 lbs, to advance the lance into the subsurface. Once the desired depth is reached, valving on the head of the lance and at the DRIS trailer allow the water to be shut off. Subsequently the injectate is introduced to the subsurface under similar pressures. The DRIS unit also utilizes the introduction of pressurized air, in a band of small orifices (jets), located above the

injectate jets. The air limits the volume of injectate allowed to escape out the pilot hole and facilitates the lateral movement of the injectate into the subsurface.

By injecting low volumes of liquid inoculates at high pressure, micro-fractures are created in the subsurface. Once the micro-fractures are opened, the inoculates are effectively dispersed into the soil. The DRIS system provides the intimate contact between the inoculate and the contaminant necessary to achieve contaminant reduction or degradation.

Past experience with the DRIS injection lances in similar type soils, indicates that the maximum depth of advancement will be approximately 30 feet bgs. Experience at the site with the model 4200 Geoprobe indicates that the maximum depth of advancement will be approximately 40 feet bgs. Therefore, in order to reach the deeper contaminant zone, a geoprobe rig will be utilized to advance pilot holes for the lance, in the area between MW-6 and MW-3.

The geoprobe rig will be utilized to advance pilot holes in the intermediate area where the lance alone can not penetrate to the base of the impacted soil zone. The lances will be employed, without the use of pilot holes where they are capable of reaching to the base of the impacted zone. Soil samples collected by the geoprobe, during the advancement of the pilot holes, will be used to confirm the depth to the base of the impacted zone where this horizon is not well defined.

5.2.4 Injection Spacing

At the beginning of the first injection event, an area of the site will be selected to conduct a pilot test to determine the required spacing. Initially, a grid, on ten foot spacing, will be laid out and the lance will be advanced at each point. During injection, the movement of injectate from adjacent holes will confirm that the holes are within the radius of influence. Typically, the radius of influence is between five to fifteen feet in this type of soil. Subsequent to this estimate of the radius of influence, a grid will be laid out across the impacted portion of the site.

6.0 MONITORING PROGRAM

During and subsequent to the recommended remedial activities, the ground water elevations in all site monitoring wells will be gauged and monitored for the presence of PSH on a monthly basis. All of the site monitoring wells will be sampled quarterly and the samples will be submitted for the analysis of BTEX (EPA Method 8020, 5030) and TPH (EPA Method 8015, modified for DRO and GRO). An annual report will be provided with a summary of all field activities and data results. The following developments at the site will warrant timely notification interim to the annual report:

- The detection of COCs in currently non-impacted monitoring wells for two consecutive monitoring periods;
- The detection of PSH in any well in which PSH has not been present previously;
- The recurrence of PSH in any well in which PSH was removed during remedial activities.

The monitoring plan will continue until such time that site closure is granted by the appropriate regulatory agency. Significant trends in COC concentrations or other significant developments at the site may have a bearing on the timing of a closure request.

7.0 QA/QC PROCEDURES

7.1 Soil Sampling

Samples of subsurface soils will be obtained utilizing either a split spoon sampler (air rotary drilling rig) or a two inch, continuous sampling tube with a clean polybuterate liner (geoprobe). Representative soil samples will be divided into two separate portions using clean, disposable gloves and clean sampling tools. One portion of the soil sample will be placed in a disposable sample bag. The bag will be labeled and sealed for head-space analysis using a photo-ionization detector (PID) calibrated to a 100 ppm isobutylene standard. Each sample will be allowed to volatilize for approximately thirty minutes at ambient temperature prior to conducting the analysis.

The other portion of the soil sample will be placed in a sterile glass container equipped with a Teflon-lined lid furnished by the analytical laboratory. The container will be filled to capacity to limit the amount of head-space present. Each container will be labeled and placed on ice in an insulated cooler. Upon selection of samples for analysis, the cooler will be sealed for shipment to the laboratory. Proper chain-of-custody documentation will be maintained throughout the sampling process.

Soil samples will be delivered to Environmental Lab of Texas, Inc. in Midland, Texas for BTEX and TPH analyses using the methods described below. Soil samples will be analyzed for BTEX and TPH-DRO within fourteen days following the collection date.

The soil samples will be analyzed as follows:

- BTEX concentrations in accordance with EPA Method 8020, 5030
- TPH concentrations in accordance with modified EPA Method 8015-GRO/DRO

7.2 Ground Water Sampling

Monitoring wells will be developed and purged with a clean PVC bailer. The bailer will be cleaned prior to each use with Liqui-Nox detergent and rinsed with distilled water.

Monitoring wells with sufficient recharge will be purged by removing a minimum of three well volumes. Monitoring wells that do not recharge sufficiently will be purged until no additional ground water can be obtained.

After purging the wells, ground water samples will be collected with a disposable Teflon sampler and polyethylene line by personnel wearing clean, disposable gloves. Ground water sample containers will be filled in the order of decreasing volatilization sensitivity (i.e., BTEX containers will be filled first and PAH containers second).

Ground water samples collected for BTEX analysis will be placed in 40 ml glass VOA vials equipped with Teflon-lined caps. The containers will be provided by the analytical laboratory. The vials will be filled to a positive meniscus, sealed, and visually checked to ensure the absence of air bubbles.

Ground water samples collected for PAH analysis will be filled to capacity in sterile, 1 liter glass containers equipped with Teflon-lined caps. Ground water samples collected for metals analysis will be filled to capacity in sterile, 1 liter plastic containers equipped with Teflon-lined caps. The containers will be provided by the analytical laboratory.

The filled containers will be labeled and placed on ice in an insulated cooler. The cooler will be sealed for transportation to the analytical laboratory. Proper chain-of-custody documentation will be maintained throughout the sampling process.

The ground water samples will be analyzed as follows:

- BTEX concentrations in accordance with EPA Method 8020, 5030
- TPH concentrations in accordance with modified EPA Method 8015-GRO/DRO

7.3 Decontamination Of Equipment

Cleaning of drilling equipment will be the responsibility of the drilling company. In general, the cleaning procedures will consist of using high pressure steam to wash the drilling and sampling equipment prior to drilling and prior to starting each hole. Prior to use, the sampling equipment will be cleaned with Liqui-Nox detergent and rinsed with distilled water.

7.4 Laboratory Protocol

The laboratory will be responsible for proper QA/QC procedures. These procedures will either be transmitted with the laboratory reports or on file at the laboratory.

8.0 SCHEDULE OF ACTIVITIES

The removal of free phase product at the site will be initiated within 14 days of approval of the abatement plan. Active remediation of the unsaturated zone will be initiated within 30 days of approval of this plan. Monthly gauging and quarterly monitoring will be ongoing regardless of the status of this plan.

9.0 LIMITATIONS

Environmental Technology Group, Inc. has prepared this Additional Subsurface Investigation Report and Stage 2 Abatement Plan to the best of its ability. No other warranty, expressed or implied, is made or intended.

Environmental Technology Group, Inc. has examined and relied upon documents referenced in the report and has relied on oral statements made by certain individuals. Environmental Technology Group, Inc. has not conducted an independent examination of the facts contained in referenced materials and statements. We have presumed the genuineness of the documents and that the information provided in documents or statements is true and accurate. Environmental Technology Group, Inc. has prepared this report in a professional manner, using the degree of skill and care exercised by similar environmental consultants. Environmental Technology Group, Inc. also notes that the facts and conditions referenced in this report may change over time and the conclusions and recommendations set forth herein are applicable only to the facts and conditions as described at the time of this report.
This report has been prepared for the benefit of EOTT Energy Corp. The information contained in this report including all exhibits and attachments, may not be used by any other party without the express consent of Environmental Technology Group, Inc. and/or EOTT Energy Corp.

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TABLES

TABLE 1
HDO-90-23
LEA COUNTY, NEW MEXICO
SOIL SAMPLE ANALYSIS RESULTS
ETGI PROJECT # EOT1019C

SAMPLE	SAMPLE DATE	Sample Depth	GRO C6-C10 (mg/kg)	DRO >C10-C25 (mg/kg)	Benzene (mg/kg)	Toulene (mg/kg)	Ethylbenzene (mg/kg)	Mp-Xylene (mg/kg)	o-Xylene (mg/kg)
MW-6	09/02/99	5' - 7'	3460	3431	6.69	22.04	108.9	130.6	12.87
MW-6	09/02/99	25' - 27'	1322	1443	2.45	27.49	31.98	32.57	12.2
MW-6	09/02/99	40' - 42'	46	395	<0.100	0.132	0.354	0.762	0.455
MW-7	09/02/99	10' - 12'	<10	53	<0.100	<0.100	<0.100	0.166	<0.100
MW-7	09/02/99	40' - 42'	<10	15	0.139	<0.100	0.106	0.125	<0.100
SB-10	09/02/99	10' - 12'	<10	<10	<0.100	<0.100	<0.100	0.115	<0.100
SB-10	09/02/99	40' - 42'	<10	<10	<0.100	<0.100	<0.100	0.328	0.144
GP-2	09/02/99	10' - 12'	<10	<10	<0.100	<0.100	<0.100	<0.100	0.100
GP-3	09/03/99	22' - 23'	<10	<10	<0.100	0.120	<0.100	0.107	<0.100
GP-4	09/03/99	14' - 16'	<10	<10	<0.100	<0.100	<0.100	0.104	<0.100
GP-5	09/03/99	12' - 14'	2870	4557	3.67	39.26	69.56	65.42	24.13
GP-6	09/03/99	14' - 16'	<10	217	<0.100	0.262	0.127	0.319	0.128
GP-8	09/03/99	10' -12'	<10	<10	<0.100	<0.100	<0.100	0.102	<0.100
GP-9	09/03/99	15' - 16'	<10	<10	<0.100	0.237	0.111	0.359	0.169
GP-10	09/03/99	15' - 16'	<10	<10	<0.100	<0.100	<0.100	<0.100	<0.100
MW-8	09/03/99	10' - 12'	<10	<10	<0.100	<0.100	<0.100	<0.100	<0.100
MW-8	09/03/99	40' - 42'	<10	<10	<0.100	<0.100	<0.100	<0.100	<0.100

Methods: EPA SW 846-8015M GRO/DRO
EPA SW 846-8020.5030

TABLE 2
HDO-90-23
LEA COUNTY, NEW MEXICO
GROUND WATER GAUGING SUMMARY
ETGI PROJECT # EOT1019C

MONITORING WELL MW-1

DATE MEASURED	DEPTH TO WATER FROM PVC (feet)	ELEVATION OF WATER (feet)		PSH THICKNESS (feet)
		Actual	Corrected	
03/03/98	45.99	3419.62	—	—
04/07/98	46.00	3419.61	—	—
05/01/98	45.97	3419.64	—	—
06/02/98	46.01	3419.60	—	—
07/01/98	46.05	3419.56	—	—
07/08/98	46.11	3419.50	—	—
08/04/98	46.11	3419.50	—	—
09/01/98	46.17	3419.44	—	—
10/01/98	46.15	3419.46	—	—
10/06/98	46.20	3419.41	—	—
11/11/98	46.21	3419.40	—	—
12/01/98	46.19	3419.42	—	—
01/02/99	46.12	3419.49	—	—
01/22/99	46.12	3419.49	—	—
02/09/99	46.14	3419.47	—	—
03/05/99	46.09	3419.52	—	—
04/06/99	46.11	3419.50	—	—
04/16/99	46.12	3419.49	—	—
09/13/99	46.10	3419.51	—	—

TABLE 2 (Continued)
HDO-90-23
LEA COUNTY, NEW MEXICO
GROUND WATER GAUGING SUMMARY
ETGI PROJECT # EOT1019C

MONITORING WELL MW-2

DATE MEASURED	DEPTH TO WATER FROM PVC (feet)	ELEVATION OF WATER (feet)		PSH THICKNESS (feet)
		Actual	Corrected	
03/03/98	46.06	3419.38	---	---
04/07/98	46.08	3419.36	---	---
05/01/98	46.05	3419.39	---	---
06/02/98	46.28	3419.16	3419.34	0.21
06/26/98	47.07	3418.37	3419.31	1.11
07/01/98	46.30	3419.14	3419.31	0.20
07/08/98	46.29	3419.15	3419.29	0.16
07/16/98	46.51	3418.93	3419.27	0.40
07/22/98	46.45	3418.99	3419.26	0.32
07/29/98	46.49	3418.95	3419.26	0.36
08/04/98	46.51	3418.93	3419.24	0.37
08/12/98	46.67	3418.77	3419.22	0.53
08/18/98	46.40	3419.04	3419.23	0.22
08/27/98	46.61	3418.83	3419.21	0.45
09/01/98	46.46	3418.98	3419.19	0.25
09/10/98	46.61	3418.83	3419.18	0.41
09/16/98	46.55	3418.89	3419.18	0.34
09/22/98	46.58	3418.86	3419.17	0.36
09/30/98	46.90	3418.54	3419.16	0.73
10/06/98	46.58	3418.86	3419.17	0.36
10/15/98	46.84	3418.60	3419.19	0.69
10/20/98	46.75	3418.69	3419.16	0.55

TABLE 2 (Continued)
HDO-90-23
LEA COUNTY, NEW MEXICO
GROUND WATER GAUGING SUMMARY
ETGI PROJECT # EOT1019C

MONITORING WELL MW-2 (Continued)

DATE MEASURED	DEPTH TO WATER FROM PVC (feet)	ELEVATION OF WATER (feet)		PSH THICKNESS (feet)
		Actual	Corrected	
10/29/98	46.80	3418.64	3419.18	0.63
11/11/98	47.32	3418.12	3419.17	1.23
11/17/98	46.48	3418.96	3419.18	0.26
11/25/98	46.47	3418.97	3419.20	0.27
12/01/98	46.74	3418.70	3419.20	0.59
12/28/98	47.84	3417.60	3419.23	1.92
01/15/99	47.38	3418.06	3419.25	1.40
01/22/99	47.40	3418.04	3419.24	1.41
01/23/99	47.40	3418.04	3419.24	1.41
02/01/99	47.58	3417.86	3419.26	1.65
02/09/99	47.34	3418.10	3419.25	1.35
02/20/99	47.45	3417.99	3419.26	1.49
02/27/99	47.48	3417.96	3419.27	1.54
03/05/99	47.45	3417.99	3419.27	1.50
03/09/99	46.69	3418.75	3419.29	0.63
03/19/99	47.26	3418.18	3419.28	1.29
03/24/99	47.35	3418.09	3419.30	1.42
04/02/99	47.45	3417.99	3419.30	1.54
04/06/99	47.37	3418.07	3419.29	1.44
04/15/99	49.20	3416.24	3418.53	2.69
04/22/99	47.62	3417.82	3419.29	1.73
05/24/99	48.25	3417.19	3419.33	2.52
09/13/99	48.50	3416.94	3419.29	2.76

TABLE 2 (Continued)
HDO-90-23
LEA COUNTY, NEW MEXICO
GROUND WATER GAUGING SUMMARY
ETGI PROJECT # EOT1019C

MONITORING WELL MW-3

DATE MEASURED	DEPTH TO WATER FROM PVC (feet)	ELEVATION OF WATER (feet)		PSH THICKNESS (feet)
		Actual	Corrected	
03/03/98	45.46	3419.22	—	—
04/07/98	45.48	3419.20	—	—
05/01/98	45.45	3419.23	—	—
06/02/98	45.51	3419.17	—	—
06/26/98	45.54	3419.14	—	—
07/01/98	45.53	3419.15	—	—
07/08/98	45.58	3419.10	—	—
08/04/98	45.54	3419.14	—	—
09/01/98	45.64	3419.04	—	—
10/01/98	45.63	3419.05	—	—
10/06/98	45.67	3419.01	—	—
12/01/98	45.63	3419.05	—	—
01/02/99	45.52	3419.16	—	—
01/22/99	45.59	3419.09	—	—
02/09/99	45.58	3419.10	—	—
03/05/99	45.56	341912	—	—
04/06/99	45.58	3419.10	—	—
04/16/99	45.60	3419.08	—	—
09/13/99	45.50	3419.18	—	—

TABLE 2 (Continued)
HDO-90-23
LEA COUNTY, NEW MEXICO
GROUND WATER GAUGING SUMMARY
ETGI PROJECT # EOT1019C

MONITORING WELL MW-4

DATE MEASURED	DEPTH TO WATER FROM PVC (feet)	ELEVATION OF WATER (feet)		PSH THICKNESS (feet)
		Actual	Corrected	
03/03/98	46.66	3419.10	—	—
04/07/98	46.69	3419.07	—	—
05/01/98	46.66	3419.10	—	—
06/02/98	46.71	3419.05	—	—
07/01/98	46.74	3419.02	—	—
07/08/98	46.80	3418.96	—	—
08/04/98	46.81	3418.95	—	—
09/01/98	46.86	3418.90	—	—
10/01/98	46.84	3418.92	—	—
10/06/98	46.90	3418.86	—	—
11/11/98	46.92	3418.84	—	—
12/01/98	46.89	3418.87	—	—
01/02/99	46.79	3418.97	—	—
01/22/99	46.81	3418.95	—	—
02/09/99	46.83	3418.93	—	—
03/05/99	46.79	3418.97	—	—
04/06/99	46.81	3418.95	—	—
04/16/99	46.83	3418.93	—	—
09/13/99	46.78	3418.98	—	—

TABLE 2 (Continued)
HDO-90-23
LEA COUNTY, NEW MEXICO
GROUND WATER GAUGING SUMMARY
ETGI PROJECT # EOT1019C

MONITORING WELL MW-5

DATE MEASURED	DEPTH TO WATER FROM PVC (feet)	ELEVATION OF WATER (feet)		PSH THICKNESS (feet)
		Actual	Corrected	
04/07/98	48.35	3419.05	—	—
04/08/98	48.34	3419.06	—	—
05/01/98	48.33	3419.07	—	—
06/02/98	48.38	3419.02	—	—
07/01/98	48.41	3418.99	—	—
07/08/98	48.47	3418.93	—	—
08/04/98	48.47	3418.93	—	—
09/01/98	48.52	3418.88	—	—
10/01/98	48.50	3418.90	—	—
10/06/98	48.56	3418.84	—	—
11/11/98	48.56	3418.84	—	—
12/01/98	48.54	3418.86	—	—
01/02/99	48.46	3418.94	—	—
01/22/99	48.47	3418.93	—	—
02/09/99	48.48	3418.92	—	—
03/05/99	48.45	3418.95	—	—
04/06/99	48.48	3418.92	—	—
04/16/99	48.49	3418.91	—	—
09/13/99	48.39	3419.01	—	—

TABLE 2 (Continued)
HDO-90-23
LEA COUNTY, NEW MEXICO
GROUND WATER GAUGING SUMMARY
ETGI PROJECT # EOT1019C

MONITORING WELL MW-6

DATE MEASURED	DEPTH TO WATER FROM PVC (feet)	ELEVATION OF WATER (feet)		PSH THICKNESS (feet)
		Actual	Corrected	
09/13/99	46.05	3419.26	—	—

MONITORING WELL MW-7

DATE MEASURED	DEPTH TO WATER FROM PVC (feet)	ELEVATION OF WATER (feet)		PSH THICKNESS (feet)
		Actual	Corrected	
09/13/99	46.78	3419.37	—	—

MONITORING WELL MW-8

DATE MEASURED	DEPTH TO WATER FROM PVC (feet)	ELEVATION OF WATER (feet)		PSH THICKNESS (feet)
		Actual	Corrected	
09/13/99	48.39	3419.20	—	—

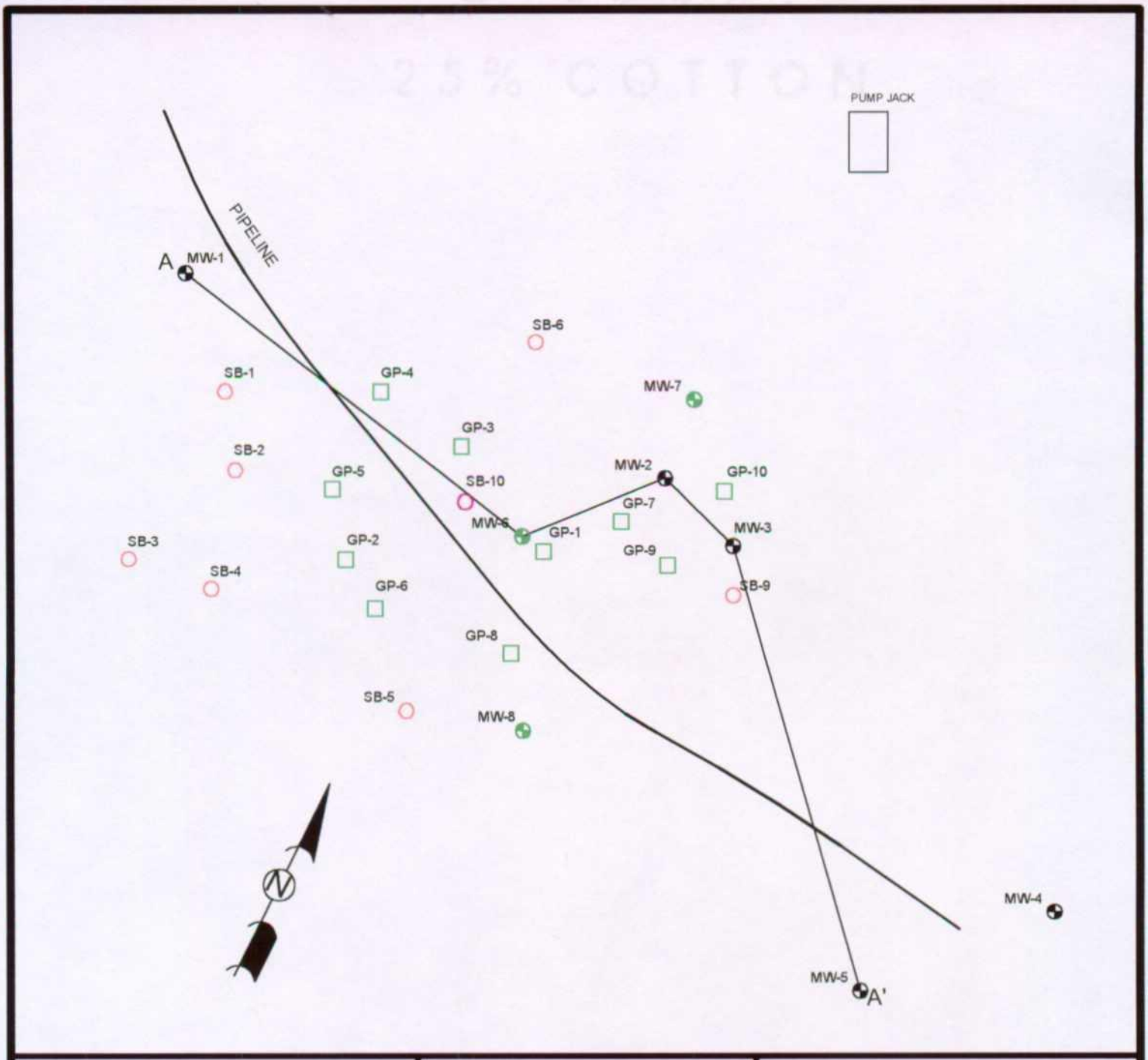
TABLE 3
HDO 90-23
LEA COUNTY, NEW MEXICO
GROUND WATER SAMPLE ANALYSIS RESULTS
ETGI Project # EOT1019C

SAMPLE	SAMPLE DATE	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	mp-Xylene (mg/L)	0-Xylene (mg/L)
MW-1	09/14/99	<0.001	<0.001	<0.001	<0.001	<0.001
MW-3	09/14/99	1.85	0.079	1.82	0.116	<0.050
MW-4	09/14/99	<0.001	<0.001	<0.001	<0.001	<0.001
MW-5	09/14/99	<0.001	<0.001	<0.001	<0.001	<0.001
MW-6	09/14/99	0.072	0.063	0.020	0.022	0.010
MW-7	09/14/99	<0.001	<0.001	<0.001	<0.001	<0.001
MW-8	09/14/99	<0.001	<0.001	<0.001	<0.001	<0.001

Methods: EPA SW 846-8020,5030

FIGURES

FIGURE 1	Site Location Map	Environmental Technology Group, INC.
Not To Scale	HDO - 90 - 23 Lea County, NM	9 - 20 - 99 RS



LEGEND:

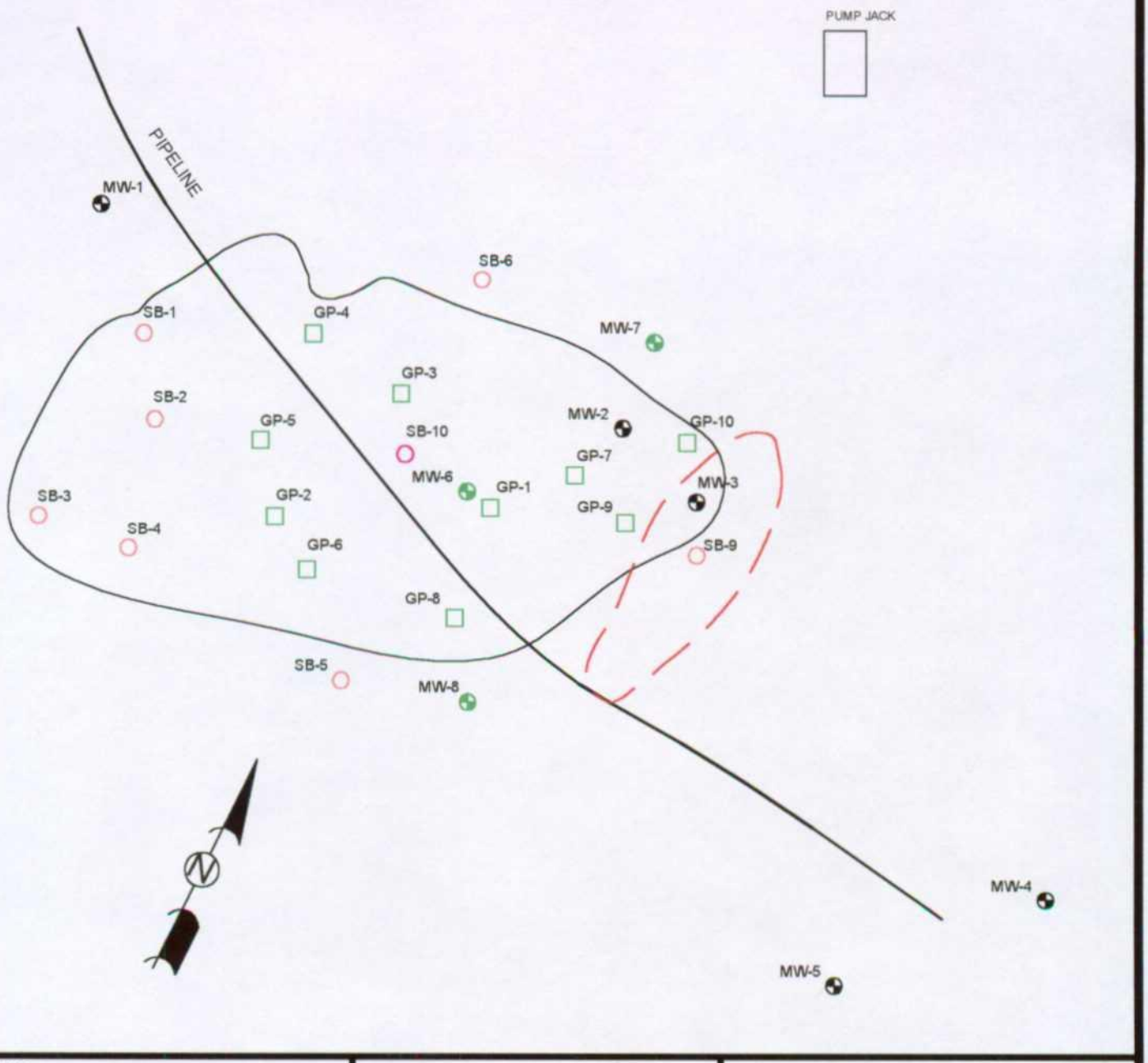
- ETGI GP (9-1-1999)
- ETGI MW (9-1-1999)
- ETGI SB (9-1-1999)
- KEI MW (late 97 early 98)
- KEI SB (late 97 early 98)
- Pipeline
- Line of Cross Section A - A'

Figure 2
Cross Section A - A'

HDO - 90 - 23
Lea County N.M.

Environmental Technology Group, INC.

Scale: 1" = 90'	Prep By: RS	Checked By: JT
September 20, 1999	ETGI Project # EOT 1019C	



LEGEND:

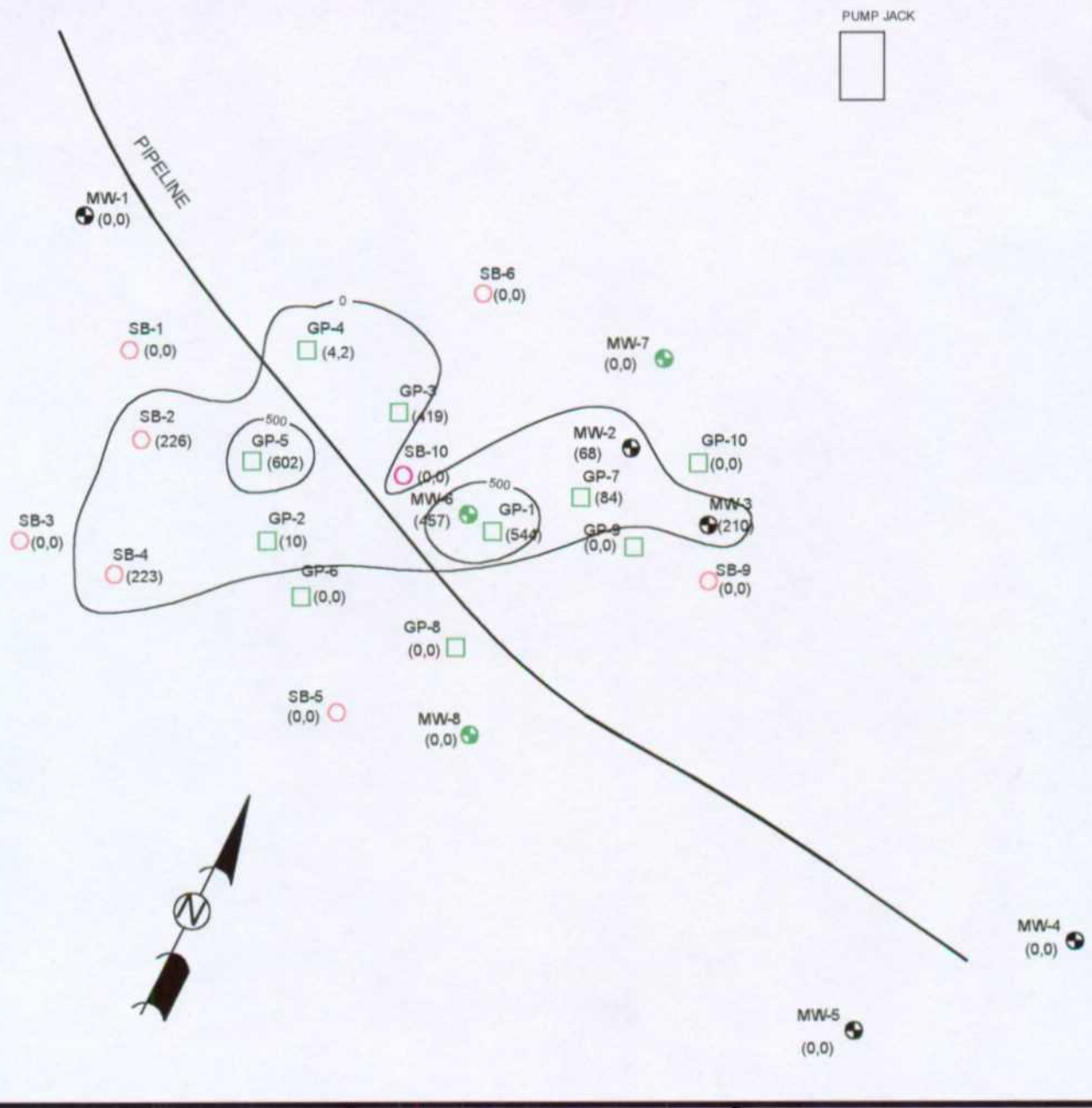
- ETGI GP (9-1-1999)
- ETGI MW (9-1-1999)
- ETGI SB (9-1-1999)
- KEI MW (late 97 early 98)
- KEI SB (late 97 early 98)
- Pipeline
- Former Area of Surface Stain
- Surface Impact from Flow Line Leak

Figure 3
Surface Soil Condition

HDO - 90 - 23
Lea County N.M.

Environmental Technology Group, INC.

Scale: 1" = 90'	Prep By: RS	Checked By: JT
September 20, 1999	ETGI Project # EOT 1019C	



LEGEND:

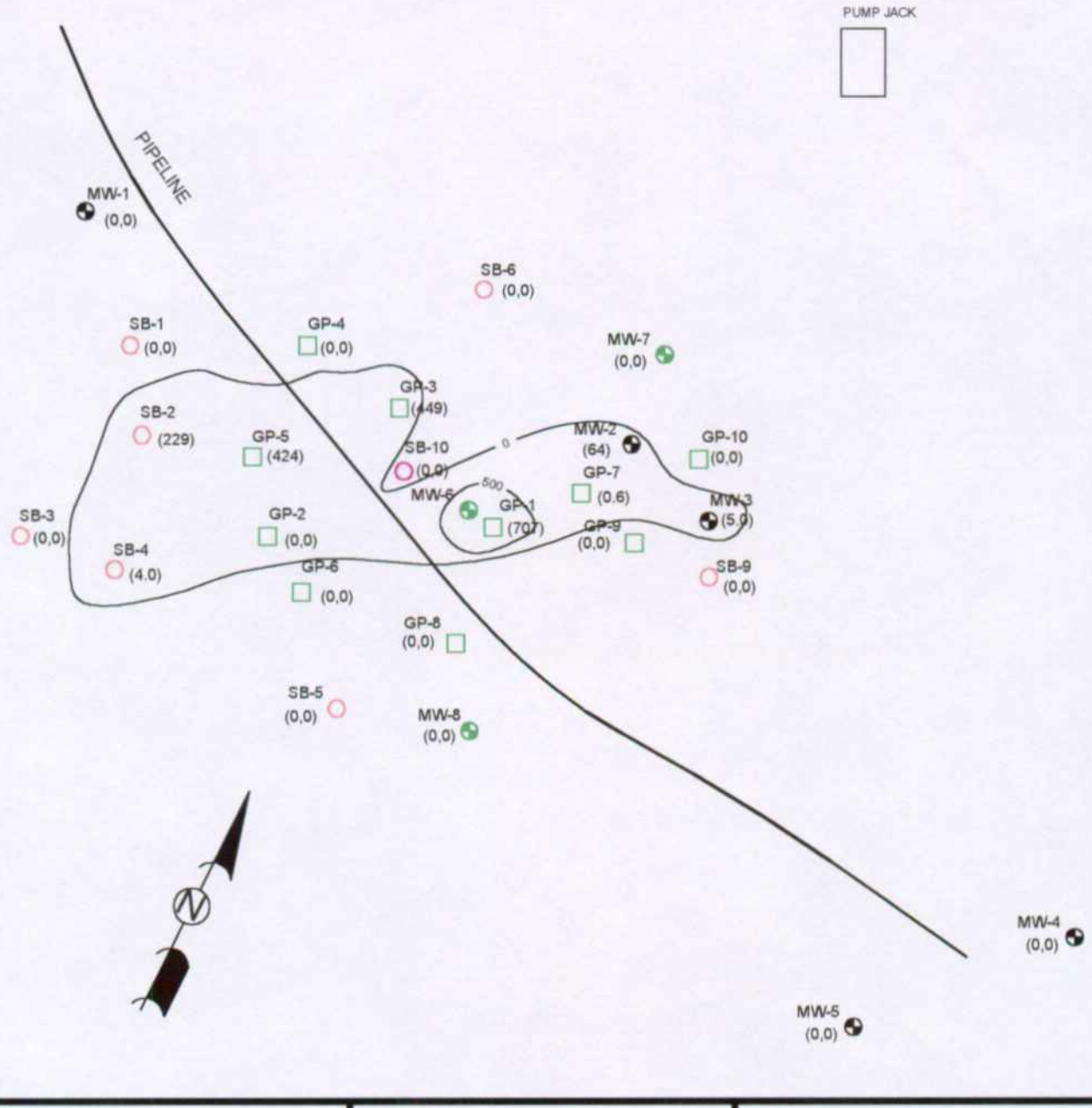
- ETGI GP (9-1-1999)
- ETGI MW (9-1-1999)
- ETGI SB (9-1-1999)
- KEI MW (late 97 early 98)
- KEI SB (late 97 early 98)
- Pipeline

Figure 4
Isopach PID Reading 5' bgs

HDO - 90 - 23
Lea County N.M.

Environmental Technology Group, INC.

Scale: 1" = 90'	Prep By: RS	Checked By: JT
September 20, 1999	ETGI Project # EOT 1019C	



LEGEND:

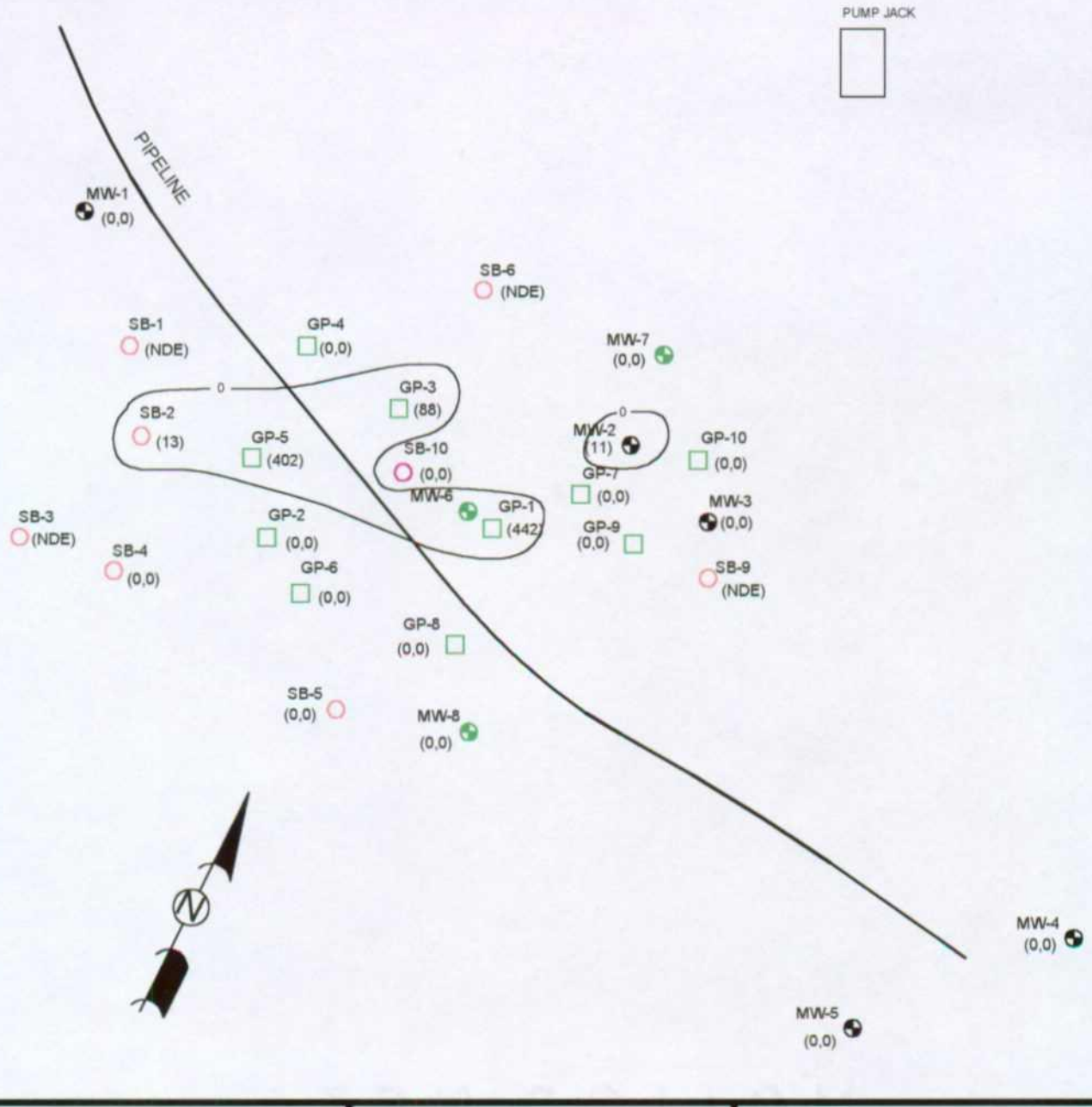
- ETGI GP (9-1-1999)
- ETGI MW (9-1-1999)
- ETGI SB (9-1-1999)
- KEI MW (late 97 early 98)
- KEI SB (late 97 early 98)
- Pipeline

Figure 5
Isopach PID Reading - 10' bgs

HDO - 90 - 23
Lea County N.M.

Environmental Technology Group, INC.

Scale: 1" = 90'	Prep By: RS	Checked By: JT
September 20, 1999	ETGI Project # EOT 1019C	



LEGEND:

- ETGI GP (9-1-1999)
- ETGI MW (9-1-1999)
- ETGI SB (9-1-1999)
- KEI MW (late 97 early 98)
- KEI SB (late 97 early 98)
- Pipeline

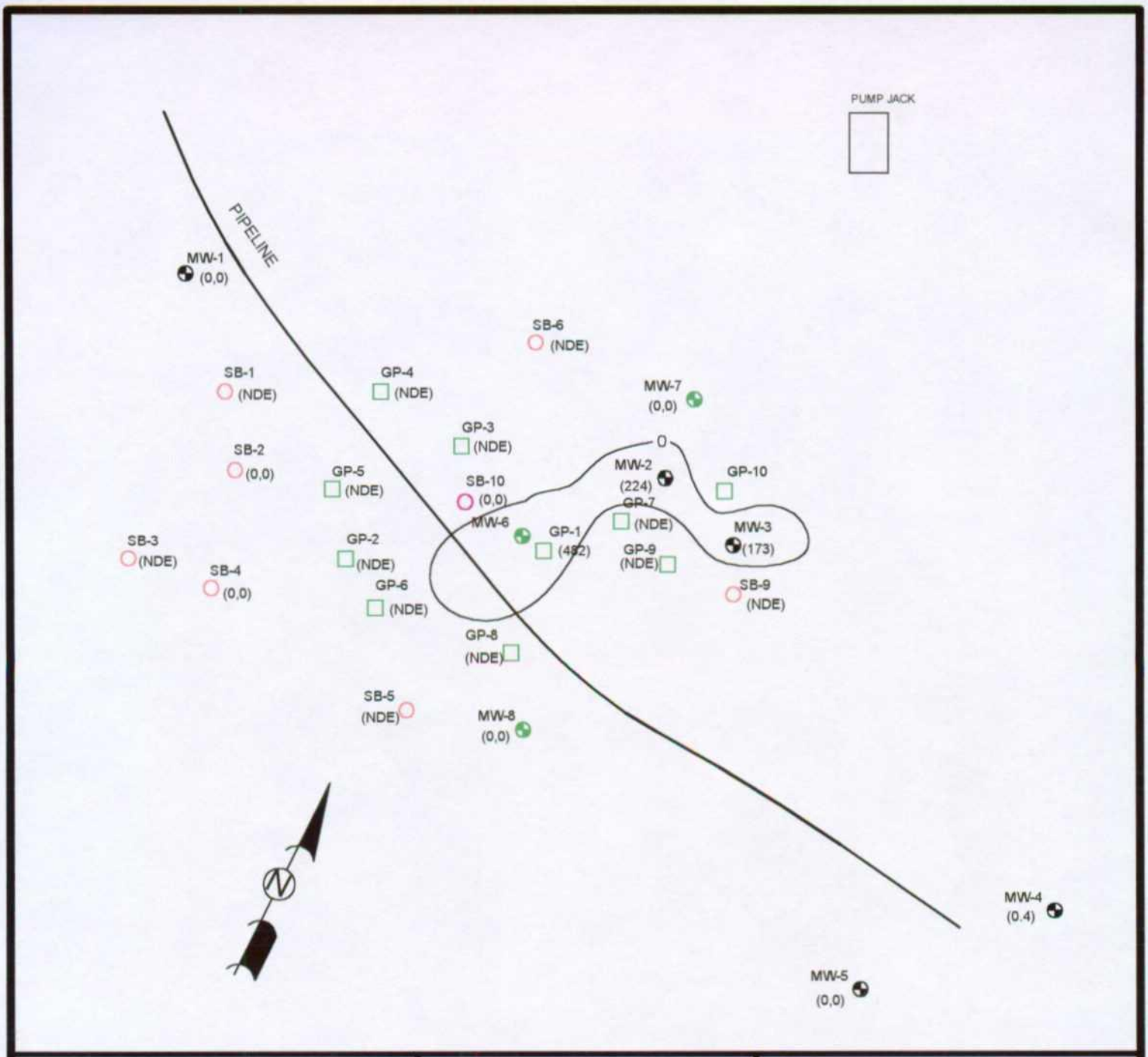
NDE = Not Deep Enough

Figure 6
Isopach PID Reading 20' bgs

HDO - 90 - 23
Lea County N.M.

Environmental Technology Group, INC.

Scale: 1" = 90'	Prep By: RS	Checked By: JT
September 20, 1999	ETGI Project # EOT 1019C	



LEGEND:

- ETGI GP (9-1-1999)
- ETGI MW (9-1-1999)
- ETGI SB (9-1-1999)
- KEI MW (late 97 early 98)
- KEI SB (late 97 early 98)
- Pipeline

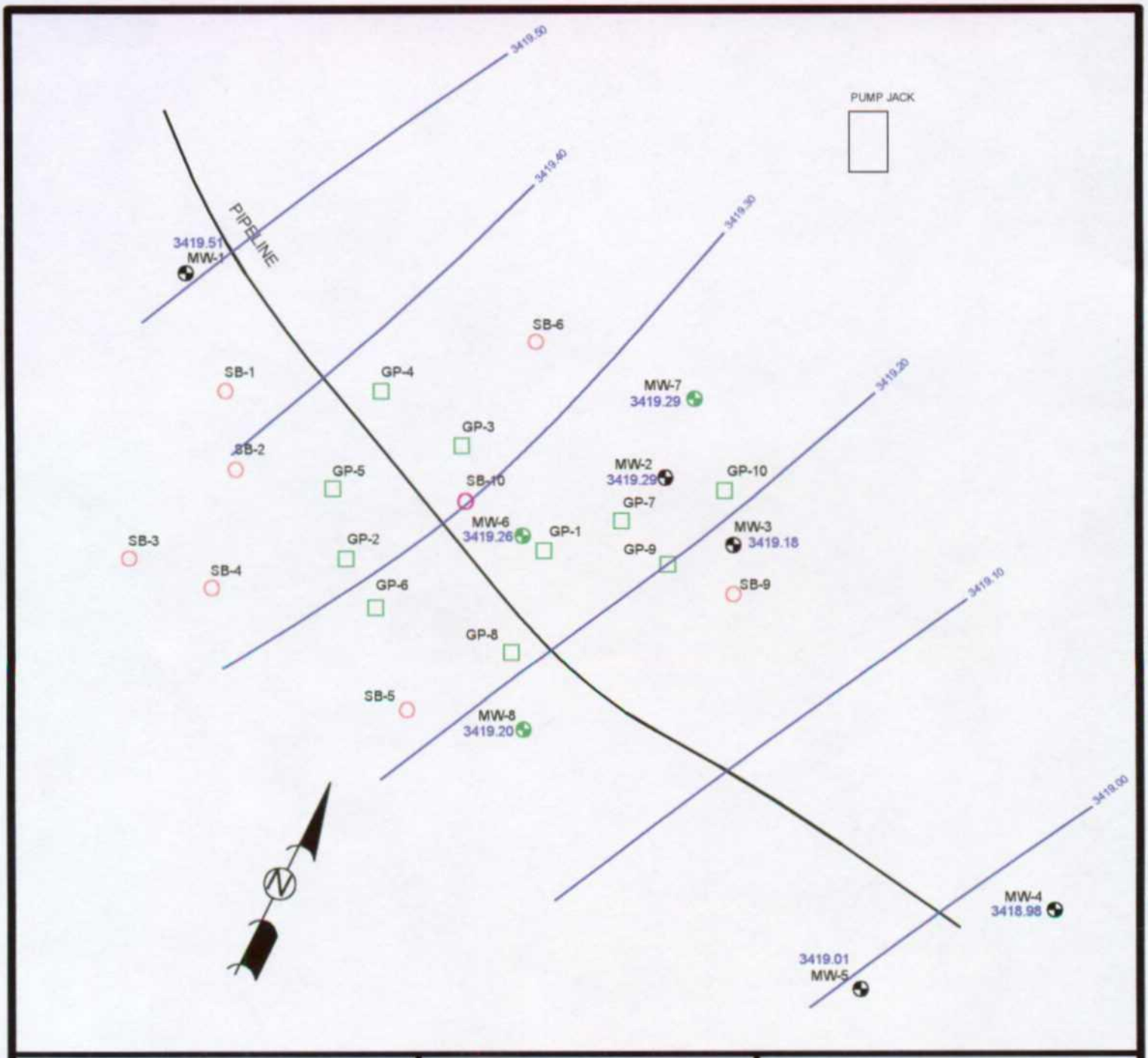
NDE = Not Deep Enough

Figure 7
Isopach PID Reading 40' bgs

HDO - 90 - 23
Lea County N.M.

Environmental Technology Group, INC.

Scale: 1" = 90'	Prep By: RS	Checked By: JT
September 20, 1999	ETGI Project # EOT 1019C	



LEGEND:

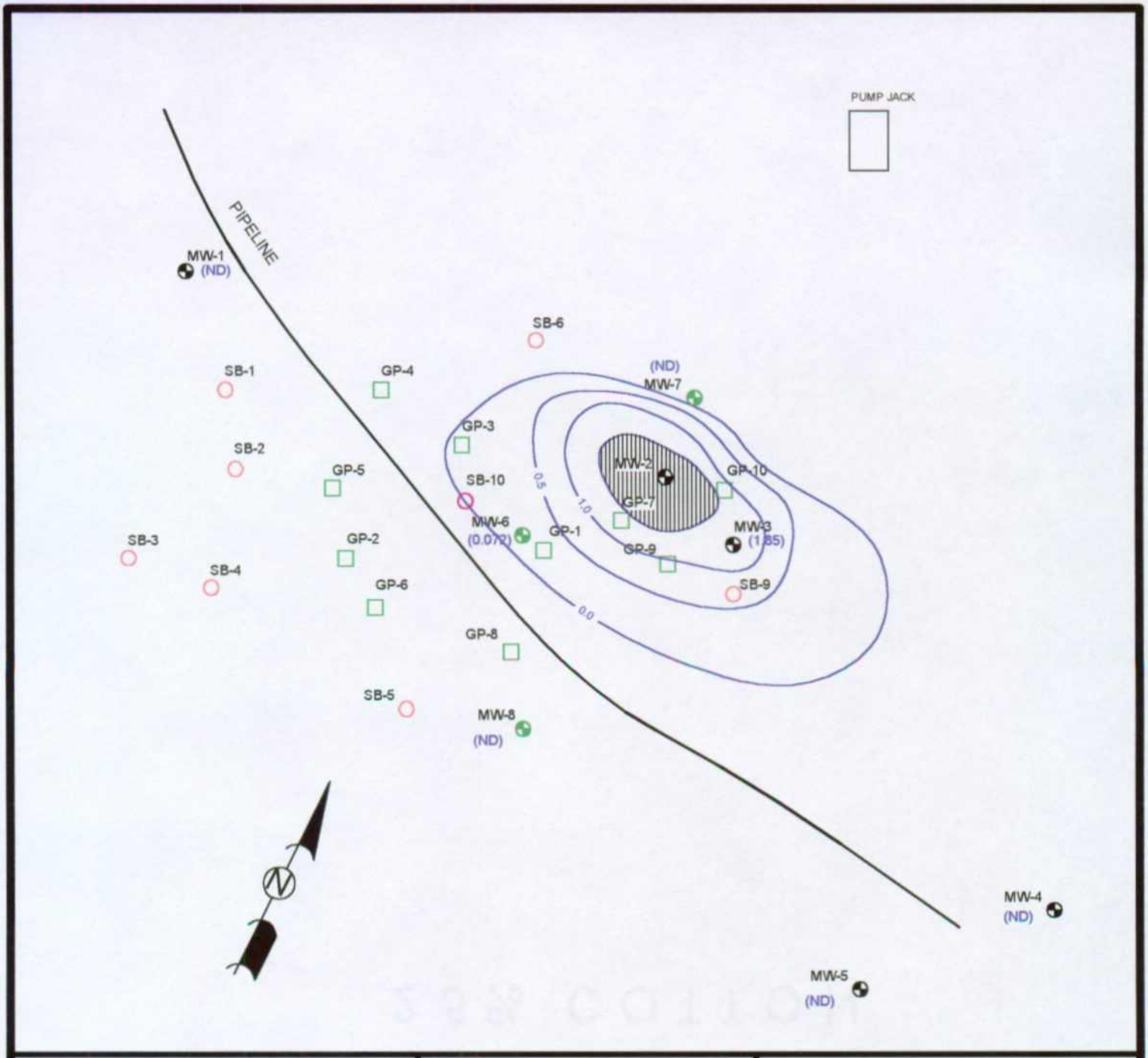
- ETGI GP (9-1-1999)
- ETGI MW (9-1-1999)
- ETGI SB (9-1-1999)
- KEI MW (late 97 early 98)
- KEI SB (late 97 early 98)
- Pipeline
- GW Gradient Elevation

Figure 8
Ground Water Gradient Map

HDO - 90 - 23
Lea County N.M.

Environmental Technology Group, INC.

Scale: 1" = 90'	Prep By: RS	Checked By: JT
September 20, 1999	ETGI Project # EOT 1019C	



LEGEND:

- ETGI GP (9-1-1999)
- ETGI MW (9-1-1999)
- ETGI SB (9-1-1999)
- KEI MW (late 97 early 98)
- KEI SB (late 97 early 98)
- Pipeline
- –1.0– Isopleth Contour Benzene Concentration (mg/l)
- Free Product

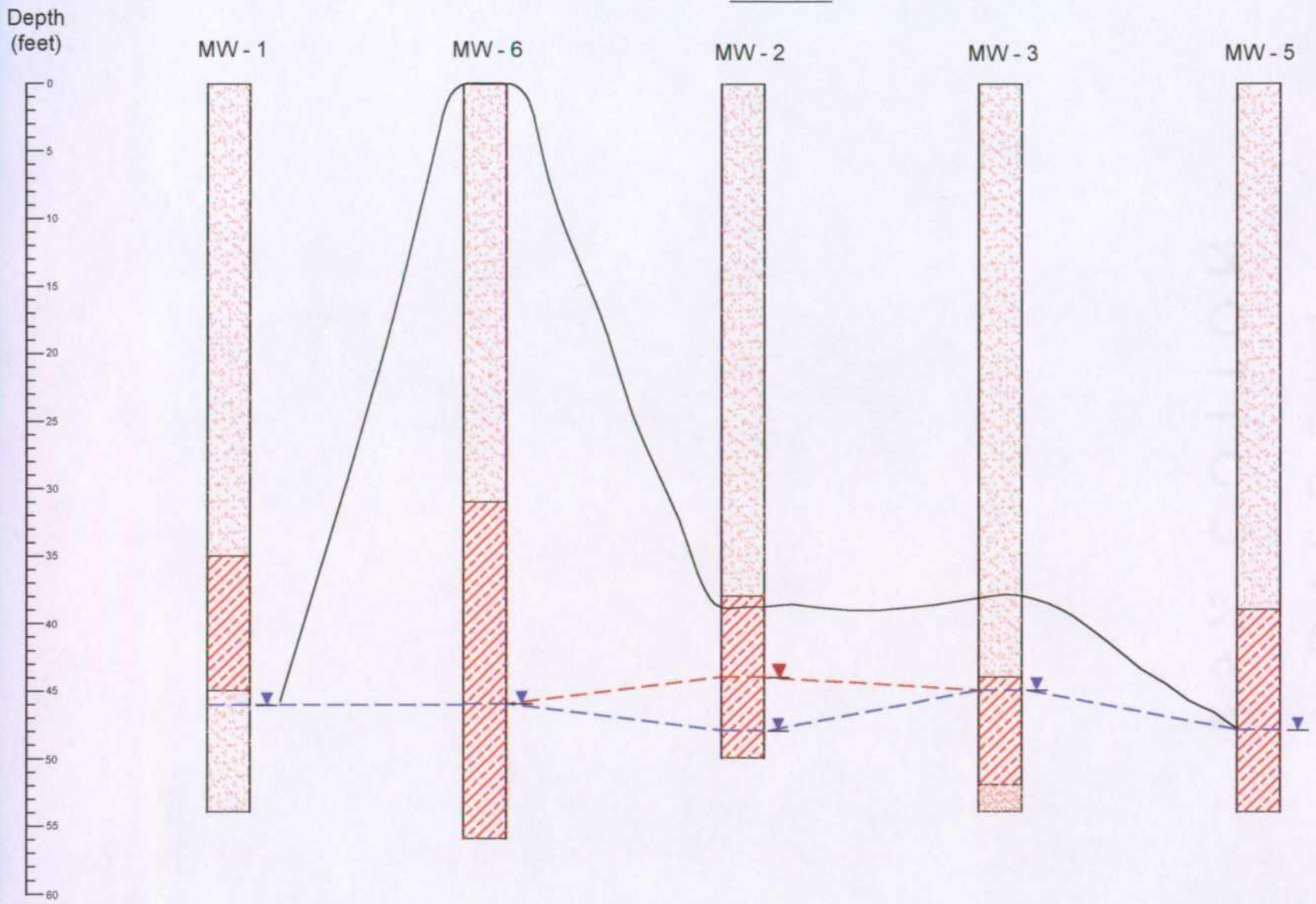
Figure 9
Ground Water Chemistry Map
Benzene Concentration

HDO - 90 - 23
Lea County N.M.

Environmental Technology Group, INC.

Scale: 1" = 90'	Prep By: RS	Checked By: JT
September 20, 1999	ETGI Project # EOT 1019C	

A - A'



Legend

- Sand - (SM) light brown, fine grained - very fine grained, silty with occasional gravel zones.
- Clay - (CL), red, brown, sandy, grading to sand with clay matrix.
- Top of product
- Top of ground water
- Limit of impacted soil

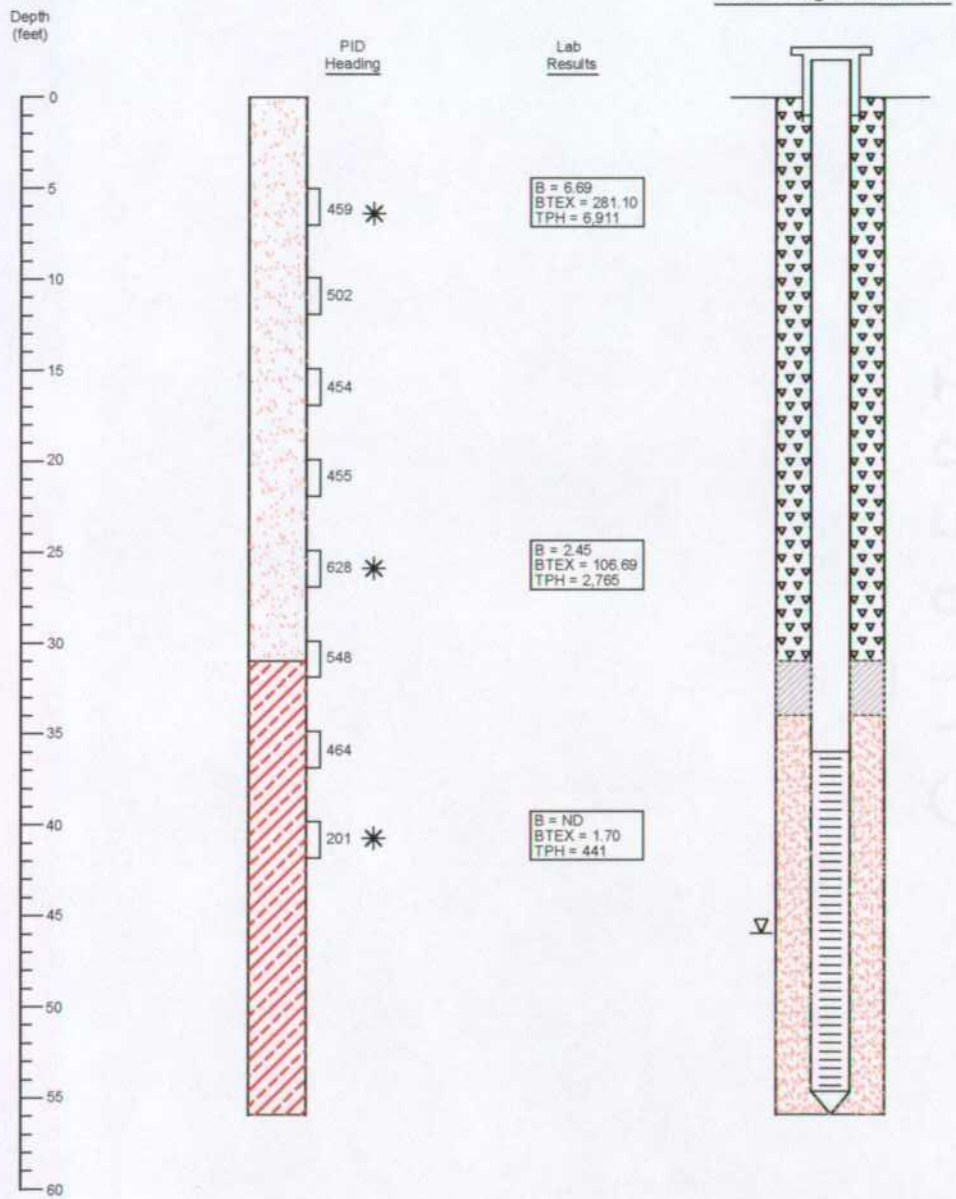
Figure 10
Cross - Section
A - A'
EOTT Energy Corp.
Site Investigation
Lea County, N.M.

Environmental Technology Group, INC.

Scale: USE SCALE	Prep By: RS	Checked By: JT
September 20, 1999	ETGI Project # EOT 1019C	

APPENDIX A
SOIL BORING LOGS

Monitoring Well MW-6



Legend

Light Brwon, Fine Grained-very fine grained, silty with occasional gravel zones.

Clay (CL), red, brown, sandy, grading to clay with clay matrix in part.

Indicates the depth of interval from which a soil sample was selected and prepared for field head-space and/or laboratory analysis

Indicates the PSH level measured on date.

Indicates the ground water level measured on date.

PID Head-space reading in ppm obtained with a photo-ionization detector.

ND Indicates the consfluent was not detected

Indicates samples selected for laboratory analysis.

Laborartory sample results.

B = Benzene Concentration (mg/kg)
BTEX = Total BTEX Concentration (mg/kg)
TPH = Total Petroleum Hydracarbon Concentration (mg/kg) (8015 Modified-DRO+GRO)

Concrete Surface Seal

Bentonite Pellet Seal

Sand Pack

Slotted PVC

Legend

1. The monitoring well was installed using air rotary dailing techniques.
2. The well was constructed with 2" ID, 0.010 inch jactory slotted, threaded joint, schedule 40 PVC pipe.
3. The well is protected with a locked slick up steel cover and a compression cap.
4. The lines between material types shown on the profile log represent approxiate boundaries. Actual transitions may be gradual.
5. The depths indicated are referenced from the ground surface.

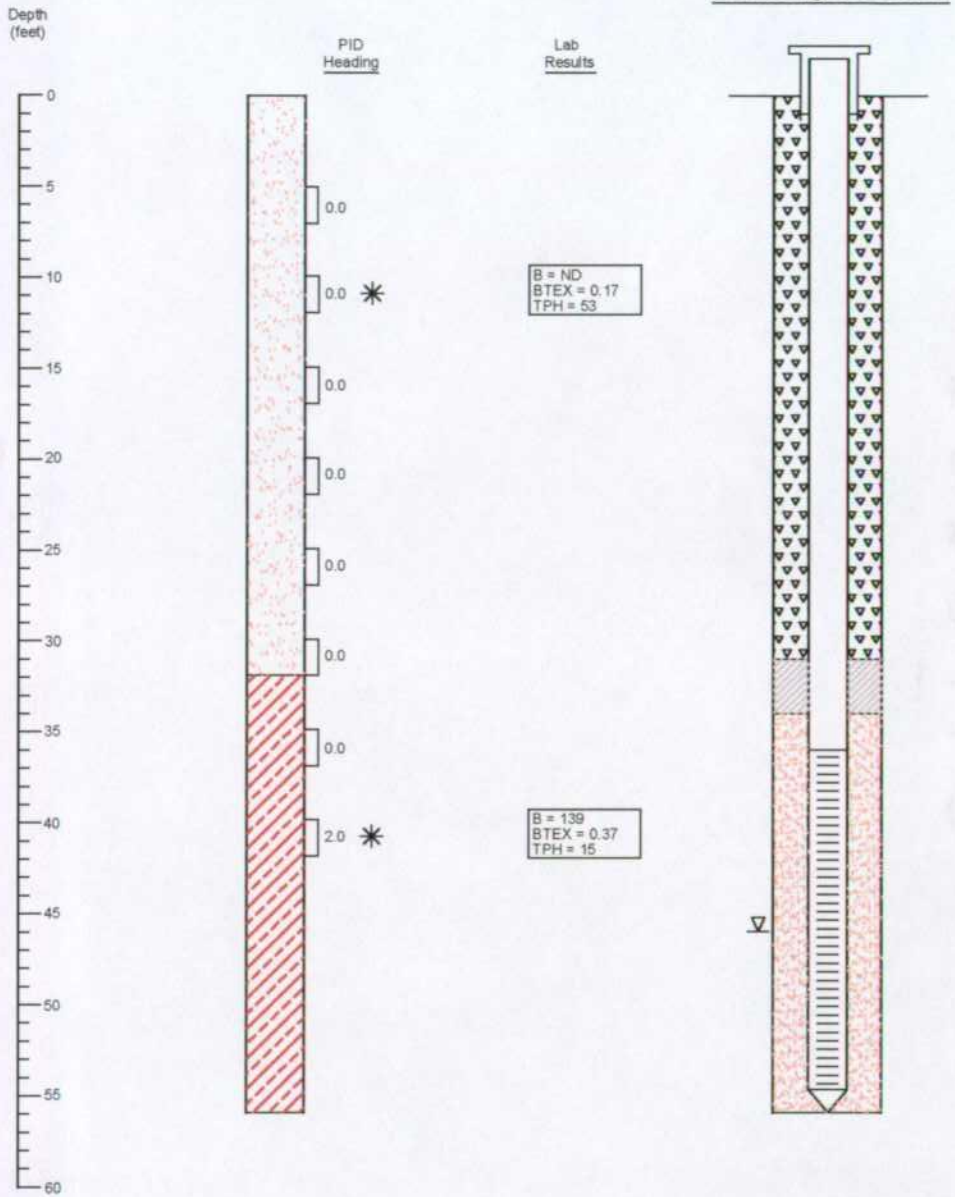
Boring Log & Monitoring Well Construction Detail

EOTT Energy Corporation
HDO 90 - 23 Release Site

Environmental Technology Group, INC.

Scale: USE SCALE	Prep By: RS	Checked By:
September 30, 1999	ETGI Project #	

Monitoring Well MW-7



Legend

- Light Brwon, Fine Grained-very fine grained, silty with occasional gravel zones.
- Clay (CL), red, brown, sandy, grading to clay with clay matrix in part.
- Indicates the depth of interval from which a soil sample was selected and prepared for field head-space and/or laboratory analysis
- Indicates the PSH level measured on date.
- Indicates the ground water level measured on date.
- PID — Head-space reading in ppm obtained with a photo-ionization detector.
- ND — Indicates the consfluent was not detected
- Indicates samples selected for laboratory analysis.
- Laborartory sample results.
- B = Benzene Concentration (mg/kg)
- BTEX = Total BTEX Concentration (mg/kg)
- TPH = Total Petroleum Hydracarbon Concentration (mg/kg) (8015 Modified-DRO+GRO)
- Concrete Surface Seal
- Bentonite Pellet Seal
- Sand Pack
- Slotted PVC

Legend

1. The monitoring well was installed on date using air rotary dailing techniques.
2. The well was constructed with 2" ID, 0.010 inch jactory slotted, threaded joint, schedule 40 PVC pipe.
3. The well is protected with a locked slick up steel cover and a compression cap.
4. The lines between material types shown on the profile log represent approxiate boundaries. Actual transitions may be gradual.
5. The depths indicated are referenced from the ground surface.

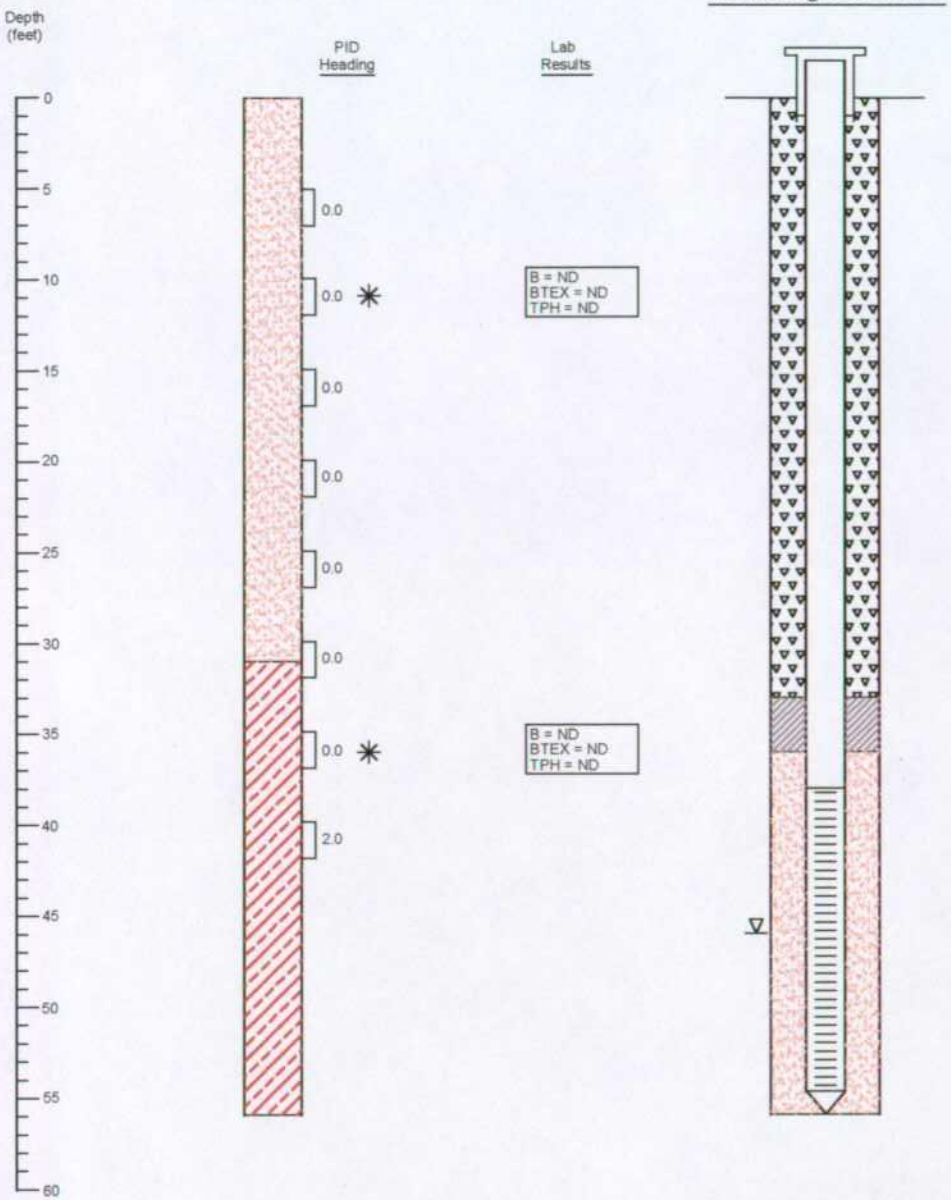
Boring Log & Monitoring Well Construction Detail

EOTT Energy Corporation
HDO 90 - 23 Release Site

Environmental Technology Group, INC.

Scale: USE SCALE	Prep By: RS	Checked By:
September 30, 1999	ETGI Project #	

Monitoring Well MW-8



Legend

Light Brwon, Fine Grained-very fine grained, silty with occasional gravel zones.

Clay (CL), red, brown, sandy, grading to clay with clay matrix in part.

Indicates the depth of interval from which a soil sample was selected and prepared for field head-space and/or laboratory analysis

Indicates the PSH level measured on date.

Indicates the ground water level measured on date.

PID Head-space reading in ppm obtained with a photo-ionization detector.

ND Indicates the consfluent was not detected

Indicates samples selected for laboratory analysis.

Laborartory sample results.

B = Benzene Concentration (mg/kg)
BTEX = Total BTEX Concentration (mg/kg)
TPH = Total Petroleum Hydracarbon Concentration (mg/kg) (8015 Modified-DRO+GRO)

Concrete Surface Seal

Bentonite Pellet Seal

Sand Pack

Slotted PVC

Legend

1. The monitoring well was installed using air rotary dailing techniques.
2. The well was constructed with 2" ID, 0.010 inch jactory slotted, threaded joint, schedule 40 PVC pipe.
3. The well is protected with a locked slick up steel cover and a compression cap.
4. The lines between material types shown on the profile log represent approxiate boundaries. Actual transitions may be gradual.
5. The depths indicated are referenced from the ground surface.

Boring Log & Monitoring Well Construction Detail

EOTT Energy Corporation
HDO 90 - 23 Release Site

Environmental Technology Group, INC.

Scale: USE SCALE	Prep By: RS	Checked By:
September 30, 1999	ETGI Project #	

ENVIRONMENTAL TECHNOLOGY GROUP, INC.

SAMPLE BORING LOG — BORING No: GP-1

PROJECT NAME: HDO-90-23 Additional Site Investigation				PROJECT #: EOT1019C
START DATE: 09-01-99			LOCATION: Monument Draw	
FINISH DATE: 09-01-99			SAMPLING DEVICE(S): Split Spoon	
SAMPLE ID	**LAB SAMPLE**	**PID (ppm)**	**DEPTH (feet)**	**SOIL DESCRIPTION / REMARKS:**
0 - 6		388	0 - 6	Silt - brown, sandy, abundant organic material, roots, strong odor, medium stain
6 - 8.5		544	6 - 8.5	Sand - gray very fine grained well sorted, strong odor, moderate stain
8.5 - 10		707	8.5 - 10	Sand- gray very fine grained well sorted, strong odor, moderate stain
10 - 13			10 - 13	Sand - gray, very fine grained becoming fragmented in part, gravel occasional, strong odor, moderate stain, with strong stain last 6"
13 -16		596	13 - 16	Sand - light gray fragmented, occasional gravel, spotty black stain, strong odor
16 - 20		442	16 - 20	Sand - light gray fragmented occasional gravel, spotty black stain, strong odor, becoming silty with 6" bands, silty zones brown, sandy
			TD=20'	

GEOLOGIST: Jesse Taylor	DRILLER: Clay Thomas
TECHNICIAN:	DRILLER ASSISTANT: Jeff Dority
DRILLING CONTRACTOR: ETGI	PPE: Level D
RIG TYPE: Geoprobe 4200	DRILLING METHOD: Geoprobe

ENVIRONMENTAL TECHNOLOGY GROUP, INC.

SAMPLE BORING LOG — BORING No: GP-2

PROJECT NAME: HDO-90-23 Additional Site Investigation				PROJECT #: EOT1019C
START DATE: 09-01-99			LOCATION: Monument Draw	
FINISH DATE: 09-01-99			SAMPLING DEVICE(S): Split Spoon	
SAMPLE ID	**LAB SAMPLE**	**PID (ppm)**	**DEPTH (feet)**	**SOIL DESCRIPTION / REMARKS:**
1 - 3		319	0 - 3	Sand - black very fine grained, silty well sorted, stained black, strong odor
4 - 6		10	3 - 5	Sand - brown, very fine grained, silty, well sorted stained brown, moderate odor
10 -12	★	0.0	5 - 15	Sand - tan, very fine grained, well sorted, clean, no stain, no odor
			TD=15'	

GEOLOGIST: Jesse Taylor	DRILLER: Clay Thomas
TECHNICIAN:	DRILLER ASSISTANT: Jeff Dority
DRILLING CONTRACTOR: ETGI	PPE: Level D
RIG TYPE: Geoprobe 4200	DRILLING METHOD: Geoprobe

★ Laboratory Sample

ENVIRONMENTAL TECHNOLOGY GROUP, INC.

SAMPLE BORING LOG — BORING No : GP-3

PROJECT NAME: HDO-90-23 Additional Site Investigation				PROJECT #: EOT1019C
START DATE: 09-02-99			LOCATION: Monument Draw	
FINISH DATE: 09-02-99			SAMPLING DEVICE(S): Split Spoon	
SAMPLE ID	**LAB SAMPLE**	**PID (ppm)**	**DEPTH (feet)**	**SOIL DESCRIPTION / REMARKS:**
0 - 4		10.0	0 - 5	Silt - brown, sandy original material, slight odor, no stain
4 - 8		419	5 - 8	Sand - light brown, light gray, very fine grained, well sorted, dry, no stain, slight odor
8 - 12		449	8 - 13	Silt - light brown, sandy, original material, slight stain, strong odor
12 - 16		623	13 - 16	Sand - light brown, brown, very fine grained well sorted, slightly moist, no visible stain, moderate odor
16 - 18		2.51	16 - 18	Sand - light brown, very fine grained, well sorted, slightly moist, no stain, with slight odor
18 -19		88	18 - 22	Sand - light brown, very fine grained, well sorted, slightly moist, no stain, with slight odor
22 - 23	★	2.0	22 - 23	Sand - light brown, very fine grained, well sorted, slightly moist, no stain, with slight odor
			TD = 23'	

GEOLOGIST: Jesse Taylor	DRILLER: Clay Thomas
TECHNICIAN:	DRILLER ASSISTANT: Jeff Dority
DRILLING CONTRACTOR: ETGI	PPE: Level D
RIG TYPE: Geoprobe 4200	DRILLING METHOD: Geoprobe

★ Laboratory Sample

ENVIRONMENTAL TECHNOLOGY GROUP, INC.

SAMPLE BORING LOG — BORING No : GP-4

PROJECT NAME: HDO-90-23 Additional Site Investigation				PROJECT #: EOT1019C
START DATE: 09-02-99			LOCATION: Monument Draw	
FINISH DATE: 09-02-99			SAMPLING DEVICE(S): Split Spoon	
SAMPLE ID	**LAB SAMPLE**	**PID (ppm)**	**DEPTH (feet)**	**SOIL DESCRIPTION / REMARKS:**
0 - 4		4.2	0 - 7	Sand - brown, very silty, slight organic content, no stain, no odor
4 - 8		0.0	7 - 14	Sand - white, light brown, very fine grained, well sorted, becoming slightly lithified in spots, no stain, no odor
14 - 16	★	0.0	14 - 16	Sand - white, light brown, very fine grained, well sorted, becoming slightly lithified in spots, no stain, no odor
			TD = 16'	

GEOLOGIST: Jesse Taylor	DRILLER: Clay Thomas
TECHNICIAN:	DRILLER ASSISTANT: Jeff Dority
DRILLING CONTRACTOR: ETGI	PPE: Level D
RIG TYPE: Geoprobe 4200	DRILLING METHOD: Geoprobe

★ Laboratory Sample

ENVIRONMENTAL TECHNOLOGY GROUP, INC.

SAMPLE BORING LOG — BORING No:GP-5

PROJECT NAME: HDO-90-23 Additional Site Investigation				PROJECT #: EOT1019C
START DATE: 09-02-99			LOCATION: Monument Draw	
FINISH DATE: 09-02-99			SAMPLING DEVICE(S): Split Spoon	
SAMPLE ID	**LAB SAMPLE**	**PID (ppm)**	**DEPTH (feet)**	**SOIL DESCRIPTION / REMARKS:**
0 - 3		618	0 - 3.5	Sand - black, silty, very fine grained, well sorted, original material, strong solid stain, strong odor
4 - 8		602	3.5 - 8	Sand - gray, very fine grained, well sorted, less silty, no organic material, spotty black stain, solid gray stain, strong odor
8 - 12		424	8 - 12	Sand - gray, very fine grained, well sorted, less silty, no organic material, spotty black stain, solid gray stain, strong odor
12 14	★	402	12 - 14	Sand - gray, very fine grained, well sorted, less silty, no organic material, spotty black stain, solid gray stain, strong odor
			TD = 14'	Note: Gravel - Probe Refusal

GEOLOGIST: Jesse Taylor	DRILLER: Clay Thomas
TECHNICIAN:	DRILLER ASSISTANT: Jeff Dority
DRILLING CONTRACTOR: ETGI	PPE: Level D
RIG TYPE: Geoprobe 4200	DRILLING METHOD: Geoprobe

★ Laboratory Sample

ENVIRONMENTAL TECHNOLOGY GROUP, INC.

SAMPLE BORING LOG — BORING No :GP-6

PROJECT NAME: HDO-90-23 Additional Site Investigation				PROJECT #: EOT1019C
START DATE: 09-02-99			LOCATION: Monument Draw	
FINISH DATE: 09-02-99			SAMPLING DEVICE(S): Split Spoon	
SAMPLE ID	**LAB SAMPLE**	**PID (ppm)**	**DEPTH (feet)**	**SOIL DESCRIPTION / REMARKS:**
0 - 4		0.0	0 - 6	Silt - brown, light brown, sandy, organic material, no stain, no odor
4 - 8		0.0	6 - 10	Sand - brown, very fine grained, well sorted, dry, no stain, no odor
8 - 12		0.0	10 - 12	Gravel - white, gray, dry, sandy, no stain, no odor
14 - 16	★	0.0	14 - 16	Gravel - white, gray, dry, sandy, no stain, no odor
			TD = 16'	

GEOLOGIST: Jesse Taylor	DRILLER: Clay Thomas
TECHNICIAN:	DRILLER ASSISTANT: Jeff Dority
DRILLING CONTRACTOR: ETGI	PPE: Level D
RIG TYPE: Geoprobe 4200	DRILLING METHOD: Geoprobe

★ Laboratory Sample

ENVIRONMENTAL TECHNOLOGY GROUP, INC.

SAMPLE BORING LOG — BORING No:GP-7

PROJECT NAME: HDO-90-23 Additional Site Investigation				PROJECT #: EOT1019C
START DATE: 09-02-99			LOCATION: Monument Draw	
FINISH DATE: 09-02-99			SAMPLING DEVICE(S): Split Spoon	
SAMPLE ID	**LAB SAMPLE**	**PID (ppm)**	**DEPTH (feet)**	**SOIL DESCRIPTION / REMARKS:**
0 - 4		84.0	0 - 2	Silt - brown, sandy, organic material, slight odor
7 - 8		6.4	2 - 7	Sand - light brown, silty, very fine grained, well sorted, dry, slight odor, slight stain
			7 - 9	Sand - black, very fine grained, silty, stained black but dead oil or organic material, low PID
9 - 10		0.6	9 - 16	Sand - gray, very fine grained, well sorted, no obvious stain, slight odor becoming moist at 14' bgs
15 - 16		0.0		
			TD = 16'	

GEOLOGIST: Jesse Taylor	DRILLER: Clay Thomas
TECHNICIAN:	DRILLER ASSISTANT: Jeff Dority
DRILLING CONTRACTOR: ETGI	PPE: Level D
RIG TYPE: Geoprobe 4200	DRILLING METHOD: Geoprobe

ENVIRONMENTAL TECHNOLOGY GROUP, INC.

SAMPLE BORING LOG — BORING No : GP-8

PROJECT NAME: HDO-90-23 Additional Site Investigation				PROJECT #: EOT1019C
START DATE: 09-02-99			LOCATION: Monument Draw	
FINISH DATE: 09-02-99			SAMPLING DEVICE(S): Split Spoon	
SAMPLE ID	**LAB SAMPLE**	**PID (ppm)**	**DEPTH (feet)**	**SOIL DESCRIPTION / REMARKS:**
0 - 4		0.0	0 - 4	Silt - brown, light brown, sandy, organic at top, dry, no stain, no odor
4 - 8		0.0	4 - 12	Sand - light brown, very silty, very fine grained, well sorted, dry, no stain, no odor
10 - 12	★	0.0		
			TD = 12'	

GEOLOGIST: Jesse Taylor	DRILLER: Clay Thomas
TECHNICIAN:	DRILLER ASSISTANT: Jeff Dority
DRILLING CONTRACTOR: ETGI	PPE: Level D
RIG TYPE: Geoprobe 4200	DRILLING METHOD: Geoprobe

★ Laboratory Sample

ENVIRONMENTAL TECHNOLOGY GROUP, INC.

SAMPLE BORING LOG — BORING No : GP-9

PROJECT NAME: HDO-90-23 Additional Site Investigation				PROJECT #: EOT1019C
START DATE: 09-02-99			LOCATION: Monument Draw	
FINISH DATE: 09-02-99			SAMPLING DEVICE(S): Split Spoon	
SAMPLE ID	**LAB SAMPLE**	**PID (ppm)**	**DEPTH (feet)**	**SOIL DESCRIPTION / REMARKS:**
2 - 4		0.0	0 - 3	Silt - light brown, brown, organic material top 4", dry, no stain, no odor
4 - 8		0.0		
15 - 16	★	0.0	3 - 16	Sand - light brown, very fine grained, silty, dry, well sorted, no stain, no odor
			TD = 16'	

GEOLOGIST: Jesse Taylor	DRILLER: Clay Thomas
TECHNICIAN:	DRILLER ASSISTANT: Jeff Dority
DRILLING CONTRACTOR: ETGI	PPE: Level D
RIG TYPE: Geoprobe 4200	DRILLING METHOD: Geoprobe

★ Laboratory Sample

ENVIRONMENTAL TECHNOLOGY GROUP, INC.

SAMPLE BORING LOG — BORING No : GP-10

PROJECT NAME: HDO-90-23 Additional Site Investigation				PROJECT #: EOT1019C
START DATE: 09-02-99			LOCATION: Monument Draw	
FINISH DATE: 09-02-99			SAMPLING DEVICE(S): Split Spoon	
SAMPLE ID	**LAB SAMPLE**	**PID (ppm)**	**DEPTH (feet)**	**SOIL DESCRIPTION / REMARKS:**
2 - 4		0.0	0 - 3	Silt - brown, sandy, organic, dry, no stain, no odor
8 - 10		0.0	3 - 7	Sand - light brown, very fine grained, well sorted, dry, no stain, no odor
15 -16	★	0.0	7 - 16	Sand - white, tan, very fine grained, well sorted, dry, no stain, no odor
			TD =16'	

GEOLOGIST: Jesse Taylor	DRILLER: Clay Thomas
TECHNICIAN:	DRILLER ASSISTANT: Jeff Dority
DRILLING CONTRACTOR: ETGI	PPE: Level D
RIG TYPE: Geoprobe 4200	DRILLING METHOD: Geoprobe

★ Laboratory Sample

ENVIRONMENTAL TECHNOLOGY GROUP, INC.

SAMPLE BORING LOG — BORING No : SB-10

PROJECT NAME: HDO-90-23 Additional Site Investigation				PROJECT #: EOT1019C
START DATE: 09-02-99			LOCATION: Monument Draw	
FINISH DATE: 09-02-99			SAMPLING DEVICE(S): Split Spoon	
SAMPLE ID	**LAB SAMPLE**	**PID (ppm)**	**DEPTH (feet)**	**SOIL DESCRIPTION / REMARKS:**
			0 - 4	Silt - brown, sandy, moderate stain, moderate odor
5 - 7		0.0	4 - 12	Sand - gray, very fine grained, well sorted, stained gray, slight odor
10 - 12	★	0.0		Sand - gray, very fine grained, well sorted, stained gray, slight odor
15 - 17		0.0	12 - 19	Gravel - light brown, white, abundant sand, poorly sorted, brown rock fragments, no stain, no odor
20 - 22		0.0	19 - 30	Sand - white, tan, light brown, very fine grained, well sorted, no stain, no odor
25 - 27		0.0		Sand - white, tan, light brown, very fine grained, well sorted, no stain, no odor
30 -32		0.0	30 - 38	Sand - red, fine to moderate grained, slightly moist, moderately sorted, with some pebbles, no stain, no odor
40 - 42	★	0.0	38 - 42	Clay - red, brown, sandy, grading to sand with clay matrix, occasional, gravel zones
				TD 42' bgs - Boring only

GEOLOGIST: Jesse Taylor	DRILLER:
TECHNICIAN:	DRILLER ASSISTANT:
DRILLING CONTRACTOR: Eades Drilling	PPE: Level D
RIG TYPE: Air Rotary	DRILLING METHOD:

★ Laboratory Sample

APPENDIX B
LABORATORY ANALYTICAL DATA

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

ENVIRONMENTAL TECHNOLOGY GROUP, INC.
P.O. BOX 4845
MIDLAND, TEXAS 79704
FAX: 915-520-4310

Sample Type: Soil
Sample Condition: Intact/Iced
Project #: EOT 1019C
Project Name: Eunice/ Monument Draw Spill
Project Location: None Given

Sampling Date: See Below
Receiving Date: 09/09/99
Analysis Date: 09/09/99

ELT#	FIELD CODE	GRO C6-C10 (mg/kg)	DRO >C10-C25 (mg/kg)	Sample Date
19869	MW-6-5'-7'	3460	3431	9/02/99
19870	MW-6-22'-27'	1322	1443	9/02/99
19871	MW-6-40'-42'	46	395	9/02/99
19872	MW-7-10'-12'	<10	53	9/02/99
19873	MW-7-40'-42'	<10	15	9/02/99
19874	SB-10-10'-12'	<10	<10	9/02/99
19875	SB-10-40'-42'	<10	<10	9/02/99
19876	GP-2-10'-12'	<10	<10	9/02/99
19877	GP-3-22'-23'	<10	<10	9/03/99
19878	GP-4-14'-16'	<10	<10	9/03/99
19879	GP-5-12'-14'	2870	4557	9/03/99
19880	GP-6-14'-16'	<10	217	9/03/99
19882	GP-8-10'-12'	<10	<10	9/03/99
19883	GP-9-15'-16'	<10	<10	9/03/99
19884	GP-10-15'-16'	<10	<10	9/03/99
19885	MW-8-10'-12'	<10	<10	9/03/99
19886	MW-8-40'-42'	<10	<10	9/03/99
	%INSTRUMENT ACCURACY	112	112	
	% EXTRACTION ACCURACY	112	112	
	BLANK	<10	<10	

Methods: EPA SW 846-8015M GRO/DRO

Roland K. Tuttle

9-14-99
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

ENVIRONMENTAL TECHNOLOGY GROUP, INC.
P.O. BOX 4845
MIDLAND, TEXAS 79704
FAX: 915-520-4310

Sample Type: Soil
Sample Condition: Intact/ Iced
Project #: EOT 1019C
Project Name: Eunice/ Monument Draw Spill
Project Location: None Given

Sampling Date: See Below
Receiving Date: 09/09/99
Analysis Date: 09/09/99

ELT#	FIELD CODE	BENZENE (mg/kg)	TOLUENE (mg/kg)	ETHYLBENZENE (mg/kg)	m,p-XYLENE (mg/kg)	o-XYLENE (mg/kg)	Sample Date
19869	MW-6-5'-7'	6.69	22.04	108.9	130.6	12.87	9/02/99
19870	MW-6-22'-27'	2.45	27.49	31.98	32.57	12.2	9/02/99
19871	MW-6-40'-42'	<0.100	0.132	0.354	0.762	0.455	9/02/99
19872	MW-7-10'-12'	<0.100	<0.100	<0.100	0.166	<0.100	9/02/99
19873	MW-7-40'-42'	0.139	<0.100	0.106	0.125	<0.100	9/02/99
19874	SB-10-10'-12'	<0.100	<0.100	<0.100	0.115	<0.100	9/02/99
19875	SB-10-40'-42'	<0.100	<0.100	<0.100	0.328	0.144	9/02/99
19876	GP-2-10'-12'	<0.100	<0.100	<0.100	<0.100	<0.100	9/02/99
19877	GP-3-22'-23'	<0.100	0.120	<0.100	0.107	<0.100	9/03/99
19878	GP-4-14'-16'	<0.100	<0.100	<0.100	0.104	<0.100	9/03/99
19879	GP-5-12'-14'	3.67	39.26	89.56	65.42	24.13	9/03/99
19880	GP-6-14'-16'	<0.100	0.262	0.127	0.319	0.128	9/03/99
19882	GP-8-10'-12'	<0.100	<0.100	<0.100	0.102	<0.100	9/03/99
19883	GP-9-15'-16'	<0.100	0.237	0.111	0.359	0.169	9/03/99
19884	GP-10-15'-16'	<0.100	<0.100	<0.100	<0.100	<0.100	9/03/99
19885	MW-8-10'-12'	<0.100	<0.100	<0.100	<0.100	<0.100	9/03/99
19886	MW-8-40'-42'	<0.100	<0.100	<0.100	<0.100	<0.100	9/03/99
	% IA	99	96	96	94	94	
	% EA	98	92	93	94	93	
	BLANK	<0.100	<0.100	<0.100	<0.100	<0.100	

METHODS: EPA SW 846-8020,5030

Raland K. Tuttle

9-14-99
Date

Environmental Lab of Texas, Inc.

12600 West I-20 East Odessa, Texas 79763
(915) 563-1800 FAX (915) 563-1713

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Eunice / Monument Draw Spill

Project Manager: ETGT

Phone #:

FAX #:

Company Name & Address:

Project #: EOT 1019C

Project Name:

Project Location:

Sampler Signature:

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	OTHER	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	OTHER	SAMPLING: DATE	TIME	ANALYSIS REQUEST: BTEX 8021B/5030	TPH 418.1	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	TDS	RCI	TPH 8015 Mod (GRO+DRO)
19869	MW-6 5'-7'													9/2										
19870	MW-6 22'-27'													9/2										
19871	MW-6 40'-42'													9/2										
19872	MW-7 10'-12'													9/2										
19873	MW-7 40'-42'													9/2										
19874	SB-10 10'-12'													9/2										
19875	SB-10 40'-42'													9/2										
19876	GP-2 [illegible] 10'-12'													9/2										
	GP-3 [illegible]													9/3										
19877	GP-3 22'-23'													9/3										
19878	GP-4 14'-16'													9/3										

Relinquished by:	Date:	Time:	Received by:
Jesse Taylor	9-9-99	1210	[signature]
Relinquished by:	Date:	Time:	Received by:
Relinquished by:	Date:	Time:	Received by Laboratory:

REMARKS

P. 05

Environmental Lab of Texas, Inc.

12600 West I-20 East Odessa, Texas 79763
(915) 563-1800 FAX (915) 563-1713

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: | Phone #: | FAX #:

Company Name & Address: ETGI

Project #: 1019C (Q4) | Project Name: | Sampler Signature:

Project Location:

ANALYSIS REQUEST

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	OTHER	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	OTHER	SAMPLING: DATE	TIME	BTEX 8021B/5030	TPH 418.1	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	TDS	RCI	TPH 8015 Mod (GRO/DRO)
	BTEX 8021/5030																							
19879	GP-5 - 12'-14'													9/3										
19880	GP-6 - 14'-16'													9/3										
missing 19881	GP-7 - 15'-16'													9/3										
19882	GP-8 10'-12'													9/3										
19883	GP-9 - 15'-16'													9/3										
19884	GP-10 - 15'-16'													9/3										
19885	MW-8 10'-12'													9/3										
19886	MW-8 - 40'-42'													9/3		✓								✓

Relinquished by:	Date:	Time:	Received by:
Jesse Taylor	9-9-99	1210	M Murray
Relinquished by:	Date:	Time:	Received by:
Relinquished by:	Date:	Time:	Received by Laboratory:

REMARKS

P. 07

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

ENVIRONMENTAL TECHNOLOGY GROUP, INC.
ATTN: MR. JESSE TAYLOR
P.O. BOX 4845
MIDLAND, TEXAS 79704
FAX: 915-520-4310
FAX: 970-461-1058

Sample Type: Water
Sample Condition: Intact/ Iced/HCl
Project #: HDO 90-23
Project Name: None Given
Project Location: Monument Draw , N.M.

Sampling Date: 09/14/99
Receiving Date: 09/15/99
Analysis Date: 09/15/99

ELT#	FIELD CODE	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYLBENZENE (mg/L)	m,p-XYLENE (mg/L)	o-XYLENE (mg/L)
20005	MW-1	<0.001	<0.001	<0.001	<0.001	<0.001
20006	MW-3	1.85	0.079	1.82	0.116	<0.050
20007	MW-4	<0.001	<0.001	<0.001	<0.001	<0.001
20008	MW-5	<0.001	<0.001	<0.001	<0.001	<0.001
20009	MW-6	0.072	0.063	0.020	0.022	0.010
20010	MW-7	<0.001	<0.001	<0.001	<0.001	<0.001
20011	MW-8	<0.001	<0.001	<0.001	<0.001	<0.001
	% IA	96	92	92	90	91
	% EA	99	93	94	94	94
	BLANK	<0.001	<0.001	<0.001	<0.001	<0.001

METHODS: EPA SW 846-8020,5030

Raland K Tuttle

Raland K. Tuttle

9-21-99

Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

ENVIRONMENTAL TECHNOLOGY GROUP, INC.
ATTN: MR. JESSE TAYLOR
P.O. BOX 4845
MIDLAND, TEXAS 79704
FAX: 915-520-4310

Sample Type: Water
Sample Condition: Intact/Iced/HCl
Project #: HDO 90-23
Project Name: None Given
Project Location: Monument Draw N.M.

Sample Date: 09/14/99
Receiving Date: 09/15/99
Analysis Date: 09/21/99
Analysis Date: Hg 9/17/99
Analysis Date: Mo,Sn,B,Sr 9/28/99

Analyte (mg/L)	MW-6 20008	MW-7 20010	MW-8 20011	Reporting Limit	%IA	%EA	BLANK	RPD
Aluminum	18.41	9.300	22.60	0.0500	94	99	<0.0500	17.10
Arsenic	0.0180	0.0160	0.0140	0.0050	98	102	<0.0050	0.00
Barium	0.4580	0.5970	2.100	0.0100	85	93	<0.0100	0.52
Beryllium	ND	ND	ND	0.0040	90	100	<0.0040	0.00
Cadmium	ND	ND	ND	0.0010	90	98	<0.0010	0.00
Calcium	622.0	208.0	403.0	1.000	*	*	<1.000	0.42
Chromium	0.0500	0.0180	0.0460	0.0050	92	101	<0.0050	0.49
Cobalt	ND	ND	ND	0.0200	86	95	<0.0200	0.21
Copper	0.0210	ND	0.0260	0.0100	86	92	<0.0100	0.00
Iron	12.60	6.390	16.20	0.0500	90	105	<0.0500	53.38
Lead	0.0120	0.0050	0.0110	0.0030	94	108	<0.0030	3.64
Magnesium	41.90	30.00	45.70	1.000	*	*	<1.000	0.90
Manganese	0.5740	0.1130	0.4370	0.0150	91	100	<0.0150	8.44
Mercury	ND	ND	ND	0.00020	102	108	<0.00020	5.71
Molybdenum	ND	ND	ND	0.050	101	*	<0.050	N/A
Nickel	0.0410	0.0130	0.0810	0.0100	91	98	<0.0100	0.41
Potassium	12.70	9.110	15.10	1.000	*	*	<1.000	N/A
Selenium	0.0180	0.0210	0.0140	0.0050	104	104	<0.0050	3.92
Silver	ND	ND	ND	0.0050	80	82	<0.0050	2.41
Sodium	116.0	94.90	92.00	1.000	*	*	<1.000	0.32
Tin	ND	ND	0.0650	0.0500	90	*	<0.0500	N/A
Vanadium	0.1050	0.0970	0.0980	0.0200	85	93	<0.0200	0.21
Zinc	0.0700	ND	0.1750	0.0200	91	96	<0.0200	3.15
Boron	0.350	0.332	0.354	0.050	97	*	<0.050	N/A
Strontium	3.33	2.45	4.63	0.050	89	*	<0.050	N/A

ND = Below Reporting Limit
METHOD: EPA SW846-6010B, 7470

Raland K. Tuttle

9-30-99
Date

P. 03

Environmental Lab of Texas, Inc.

12600 West I-20 East Odessa, Texas 79763
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CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

COC: 017

Project Manager: JESSE TAYLOR	**Phone #:** (915) 664-9166 **FAX #:**
Company Name & Address: ETGI P.O. BOX 4845 MIDLAND TX 79704	
Project #: HDO 98-23	**Project Name :**
Project Location: MONUMENT DRAW NM	**Sampler Signature:**

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	OTHER	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	OTHER	SAMPLING: DATE	TIME
20005	MW-1	2		X					X		X			9-14	0900
20006	MW-3	2													1020
20007	MW-4	2													1100
20008	MW-5	2													1045
20009	MW-6	7								X					0930
20010	MW-7	7													0915
20011	MW-8	7													0950

ANALYSIS REQUEST

BTEX 8021B/5030	TPH 418.1	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	TDS	RCI	PAH (8100 or 8270)	TDS (160.1)	CATIONS (Ca Mg K Na)	ANIONS (300)	HEAVY METALS (ICP-ICAP) (6010)
X								X	X	X	X	X

Relinquished by:	**Date:** 9-14-99	**Time:** 1240	**Received by:**
Relinquished by:	**Date:** 9-15-99	**Time:** 0852	**Received by:**
Relinquished by:	**Date:**	**Time:**	**Received by Laboratory:**

REMARKS RESULTS:
KEN DUTTON
1606 W. CAVE SUR, APT 13
HOBBS, NM 88240-0985

INVOICE: LENNAH FROST P.O.# 1015M